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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

JOSE GUARDADO, et al.,)	No. 4:22-cv-04319-JSW
)	
Plaintiffs,)	
)	OPPOSITION TO MOTION TO
v.)	CONSOLIDATE CASES
)	
CITY AND COUNTY OF SAN)	
FRANCISCO, and DOES 1-100,)	Date: June 23, 2023
)	Time: 9:00 a.m.
Defendants.)	
)	
AND CONSOLIDATED CASE.)	
)	
AND RELATED CASES.)	
)	

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STATEMENT OF FACTS

On July 12, 1974, President Nixon signed the National Research Act into law. This law had been shepherded through the Congress by Ted Kennedy, and came in response to the disclosure of the horrific experiment conducted by the United States Public Health Service from 1932 to 1972 entitled, "Tuskegee Study of Untreated Syphilis in the Negro Male." Among other effects, this law created the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. This Commission was charged with developing guidelines for medical research and experimentation on human beings.

Part of the Commission's work drew on the findings of law of the Court Martial at Nuernberg, which among other matters, adjudicated the medical atrocities in the Nazi prison camps as crimes against humanity conducted under the color of law. It is written that the bulk of these atrocities was the testing of "vaccines" on prisoners without their consent. The Nazis deliberately infected prisoners with diseases, and then tested various chemical agents on them. These experiments were conducted under color of law, which far too many judges reflexively enforced.

In its work, the Court Martial at Nuernberg adduced a set of ethical principles applicable to medical research on human beings from the law, including various treaties, statutes, and precedential cases. These findings were duly recorded in formal jurisprudence to serve as a reference for future people, presumably with the hope that they would be intelligent enough to understand the lessons incorporated therein. Collectively, these

1 principles of medical ethics are now known as the "Nuremberg
2 Code." (Exhibit 1.)

3 Of particular relevance to the utter madness which has
4 gripped the people of this country for the past three years, are
5 the first, and the last. They are as follows:

- 6 1. The voluntary consent of the human subject is
7 absolutely essential. This means that the person
8 involved should have legal capacity to give
9 consent; should be situated as to be able to
10 exercise free power of choice, without the
11 intervention of any element of force, fraud,
12 deceit, duress, over-reaching, or other ulterior
13 form of constraint or coercion, and should have
14 sufficient knowledge and comprehension of the
15 elements of the subject matter involved as to
16 enable him to make an understanding and
enlightened decision. This latter element
requires that before the acceptance of an
affirmative decision by the experimental subject
there should be made known to him the nature,
duration, and purpose of the experiment; the
method and means by which it is to be conducted;
all inconveniences and hazards reasonably to be
expected; and the effects upon his health or
person which may possibly come from his
participation in the experiment.

17 The duty and responsibility for ascertaining the
18 quality of the consent rests upon each individual
19 who initiates, directs or engages in the
20 experiment. It is a personal duty and
responsibility which may not be delegated to
another with impunity.

- 21 10. During the course of the experiment the scientist
22 in charge must be prepared to terminate the
23 experiment at any stage, if he has probable cause
24 to believe, in the exercise of the good faith,
superior skill and careful judgement required by
him that a continuation of the experiment is
likely to result in injury, disability, or death
to the experimental subject.

25 (Ibid.)

26 The World Medical Association elaborated on the Nuremberg
27 Code, beginning with its General Assembly in June 1964, in the
28 Declaration of Helsinki. (Exhibit 2.) This agreement which

1 commemorates the **obvious** manner in which scientists should behave
2 in medical research on human beings includes a detailed
3 recitation of the requirement that all such experimentation must
4 be premised upon the subjects having given their informed
5 consent. (Id., ¶¶ 25-33.) Reiterating Principle 1 adduced by
6 the Court Martial at Nuernberg, the World Medical Association
7 makes clear that a material part of informed consent is advising
8 the patient of the right to refuse to participate:

9 In medical research involving human subjects capable of
10 giving informed consent, each potential subject must be
11 adequately informed of the aims, methods, sources of
12 funding, any possible conflicts of interest,
13 institutional affiliations of the researcher, the
14 anticipated benefits and potential risks of the study
15 and the discomfort it may entail, post-study provisions
16 and any other relevant aspects of the study. The
17 potential subject must be informed of the right to
18 refuse to participate in the study or to withdraw
19 consent to participate at any time without reprisal.

20 (Id., ¶ 26; see also, 21 U.S.C. § 360bbb-3(e)(1)(A)(ii); and 45
21 C.F.R. § 46.116(b)(8).)

22 More than this, the Declaration of Helsinki sets out
23 specific ethical duties of medical professionals involved in
24 research on human beings. The first is that the health of the
25 patient must always be the first consideration. (Id., ¶ 3.) The
26 goal of medical research may never take precedence over the
27 rights of the human research subjects. (Id., ¶ 8.) Medical
28 research involving human beings must be preceded by a careful
assessment of the predictable risks and burdens in comparison
with the foreseeable benefits, (Id., ¶ 17,) and it must be based
on a thorough knowledge of the scientific literature and adequate
laboratory and when possible, animal experimentation. (Id., ¶
21.)

1 Ultimately, in April 1979, the Commission issued its report
2 on the ethical principles and guidelines governing the protection
3 of human subjects in medical research. The report is entitled
4 "The Belmont Report." (Exhibit 3.) It is very readable, and
5 sets out what is, or should be, wholly self-evident to well-
6 intended researchers and their employers. Medical research on
7 human beings must respect the subjects, (Id., ¶ B(1),) must be
8 governed by the Hippocratic maxim, (Id., ¶ B(2),) and must be
9 cognizant of the requirements of justice. (Id., ¶ B(3).) To
10 accomplish these goals, the informed consent of the subject is of
11 vital importance. (Id., ¶ C(1).) Further, there must a careful
12 and ongoing assessment of the risks and benefits of the
13 experiment. (Id., ¶ C(2).)

14 At this point, it is unlikely to be controversial among
15 fair-minded people to contend that the Covid-19 pantomime
16 violated, and continues to violate, these lofty, but legally
17 binding, principles in the most egregious and contemptuous manner
18 in which man has ever behaved with power. Indeed, the lingering
19 question of how the extreme became the mundane is no more
20 genuinely befuddling as to these times than it is as it relates
21 to the Nazis' spell over the German public in the 1930's. The
22 Covid-19 pantomime has all just been a matter of a cynical and
23 vicious application of psychological science by government actors
24 who have been captured as useful idiots by economic powers and
25 demonic forces which they could not, or refused to, recognize, or
26 worse, enthusiastically served.

27 After the war, the OSS/ CIA was quite keen to learn the Nazi
28 secrets of psychological warfare. They arrested some high-level

1 Nazis for the purpose of debriefing them. Through this
2 interrogation process, they did learn the Nazis' methods, which
3 they organized and recorded in a manual. This manual is now
4 declassified. (See, Exhibit 4.)

5 In the end, the manual contains no surprises. Selling a
6 population on a political narrative isn't fundamentally different
7 from an advertising campaign on behalf of the pork industry that
8 a breakfast of bacon and eggs is the scientific way to start the
9 day, or one on behalf of the tobacco industry that cigarettes are
10 women's "torches of freedom." In fact, the principles of this
11 sales method, which its creator called, "propaganda," were
12 expressly adopted and developed by the Nazis. (Id., ¶¶ 6 and 8.)

13 In essence, a psychological warfare operation, or "psyop" in
14 the parlance of the "intelligence" business, is a form of mass
15 hypnosis. (Id., ¶ 25.) There are three keys: First, you must
16 frighten the living daylights out of the people, and ideally by
17 playing on their subconscious fears. (Ibid.) Second, you must
18 isolate people, such as by locking them out of their businesses
19 and schools, and not permitting them to see their friends and
20 family, or to attend church services or participate in other
21 social activities. (Id., ¶ 25.) Third, you need some simple
22 slogans for your message, such as, "It's a pandemic of the
23 unvaccinated," (Id., ¶ 23(b)(1),) and then you must relentlessly
24 pound away at that message. (Id., ¶ 24.)

25 Furthermore, it is vital that the message be spread across
26 all media. (Id., ¶ 25.) This has been made quite easy in this
27 country, because deregulation of communications has allowed
28 nearly all of media to consolidate into the hands the richest

1 few, who incidentally, are also heavily invested in the
2 government. Part and parcel of this media strategy is the
3 suppression of all dissent. It is absolutely essential to a
4 successful snow job that the people have no access to any
5 "corrective." (Ibid.)

6 The Nazis demonstrated that if these controls are
7 effectively implemented and managed, the people can be mesmerized
8 into a delusion which will make them deaf to the higher levels of
9 thought. (Ibid.) The Nazis demonstrated that when mesmerized
10 person is confronted with reason, he will withdraw into the
11 comfort of his collective thinking, and he will hide behind the
12 shelter of emotional slogans. (Ibid.) For example, it doesn't
13 matter how much information has been available that the
14 ubiquitous paper masks are completely useless against airborne
15 pathogens, including SARS-CoV-2, if that even ever existed, many
16 people are still driving around in their cars by themselves
17 deluded that their filthy paper masks protect them from invisible
18 monsters.

19 Leaving aside the devastating effect that the baseless
20 Covid-19 pantomime has had on the economy and the general welfare
21 of the people, (see, e.g., Exhibit 5, [Surgeon General's report
22 on the epidemic of loneliness and isolation],) and looking just
23 at the associated mRNA experiment, we can see both that
24 propaganda can be highly effective, and also that in the wrong
25 hands, it can be extraordinarily lethal. No one should ever
26 forget the calculated slogan that the mRNA products are "safe and
27 effective." Nor should anyone ever forget that this slogan
28 itself was wrapped in the half-truth that these products are

1 "vaccines," which they only technically are - because corrupt
2 government actors changed the legal definition of "vaccine" to
3 ram the mRNA products through the regulatory process.

4 It is more than troubling that when this "safe and
5 effective" representation was made, not only did the people
6 making it know that it was not true in either regard, but also
7 that the exact opposite was the truth. Anyone familiar with the
8 literature on mRNA research, and this includes the public health
9 officials without whom the oppressions would not have been
10 possible, knows that the technology is neither safe, nor
11 effective, particularly in relation to corona viruses.

12 The indisputable fact is that the mRNA technology has never
13 been proven even to work, let alone to be effective. Moreover,
14 laboratory experiments have failed for decades, and researchers
15 have killed countless animals in the process. This record should
16 have been taken as a strong recommendation not to extend the
17 experiment to human subjects, i.e., assuming the demands of
18 medical ethics.

19 Aggravating the government's intentional and malicious lie
20 are two things which should never happen in the United States of
21 America. First, the government refused to hear credentialed and
22 informed dissenting opinion, such as the "Great Barrington
23 Declaration." (see, [https://gbdeclaration.org/.](https://gbdeclaration.org/)) This example is
24 a reasoned argument offered by qualified and eminent scientists
25 that the government was making extremely serious mistakes in its
26 public policy. Second, in order to keep the public in the dark,
27 i.e., frightened and isolated and susceptible to hypnosis, the
28 government actively censored all dissenting opinion. In this

1 shameful and flagrant violation of the First Amendment, the
2 government strong-armed the media companies into its service, and
3 it relied on a tortured construction of 47 U.S.C. § 230 in legal
4 precedent to guarantee these all-too-willing conscripts immunity
5 from liability.

6 We now know the grievous effect of the government's
7 unconstitutional activities. We now know the damage and
8 destruction idiots can and will cause when they believe that they
9 are so much smarter than ancient wisdom that they may ignore
10 well-considered and duly enacted principles of democratic
11 government.

12 Again, focused just on the mRNA experiment, the government
13 has killed and injured thousands and thousands of people. The
14 government's own records disclose that the mRNA products have
15 already injured more people than all other traditional vaccines
16 combined, (Exhibit 6, p. 153,) and killed more than three times
17 as many. (Ibid.) And these horrifying numbers are only what the
18 government reluctantly discloses. We know as a matter of the
19 anthropology of the reporting process, that the numbers reported
20 by the medical services industry to the VAERS system are low by a
21 factor of at least twenty. (Exhibit 7, pp. 186-187.) This
22 means, *ceteris paribus*, that the mRNA products have probably
23 killed more than 350,000 people just in the United States. In
24 addition, we probably won't know the full extent of the injuries
25 and pre-mature deaths for several more years.

26 Some of these victims certainly would still be alive and
27 healthy had the government simply abided the Constitution, which
28 does not include a "pandemic" exception. There's no value

1 whatsoever in the dodgy contention of the government's useless
2 idiots that "We were just doing the best we could." In fact,
3 they weren't. While they all swore an oath to the Constitution,
4 which would have helped guide them through the chaos of the SARS-
5 CoV-2 crisis, they chose to ignore their oaths and instead to get
6 drunk on their power. Very much like the "guards" in the
7 "Stanford Prison Experiment," the pathology which they created in
8 the Corona Prison Experiment caused these government actors to
9 view inalienable civil liberties not as rights, but as privileges
10 which had to be earned.

11 It's unlikely that we will ever have a fair reckoning and
12 retribution for these clear crimes against humanity, which sadly,
13 are ongoing. However, we might benefit from Justice Gorsuch's
14 recommendation that there are at least two lessons to be
15 relearned from this era of neo-Fascism:

16 1. "Fear and the desire for safety are powerful
17 forces. They can lead to a clamor for action - almost any
18 action - as long as someone does something to address the
19 perceived threat. A leader or expert who claims he can fix
20 everything, if only we do exactly as he says, can prove an
21 irresistible force."

22 2. "The concentration of power in the hands of so few
23 may be efficient and sometimes popular. But it does not
24 tend towards sound government. However wise one person or
25 his advisors may be, that is no substitute for the wisdom of
26 the whole of the American people that can be tapped in the
27 legislative process. Decisions produced by those who
28 indulge no criticism are rarely as good as those produced

1 after robust and uncensored debate."
2 (Exhibit 8, pp. 225-226 [Arizona v. Mayorkas, 598 U.S. ____
3 (2023)] .)

4 ARGUMENT AND AUTHORITIES

5 THE PARTIES WOULD BE UNDULY BURDENED BY A CONSOLIDATION
6 OF THE CASES

7 Federal Rule of Civil Procedure 42(a) authorizes the
8 district court to consolidate cases for a hearing or trial on any
9 or all matters at issue in the cases. However, this does not
10 mean that all of the cases are merged into one case. (Enterprise
11 Bank v. Saettele, 21 F.3d 233, 235 (8th Cir. 1994).) Instead, if
12 a court does order a consolidation to some degree or another,
13 each case retains its independence, and none of the parties to
14 any of the cases becomes subject to personal jurisdiction of any
15 of the other cases. (J.G. Line & Co. v. Continental Casualty
16 Company, 470 F.2d 1133, 1138 (9th Cir. 1972).) As a result, when
17 the district court considers consolidation of cases, it must
18 weigh the risk of prejudice and confusion to the parties,
19 (Cantrell v. GAF Corp., 999 F.2d 1007, 1011 (6th Cir. 1993),) and
20 it must weigh any increased burden on the parties. (Johnson v.
21 Celotex Corp., 899 F.2d 1281, 1285 (2nd Cir. 1990).)

22 The City argues that because its motion is merely for
23 consolidation through summary judgment, (MPA in Sup., 13:26-
24 14:3,) an order granting the motion will not prejudice the
25 parties. (Id., at 13:14-21.)

26 The City's lawyer has not thought this through.

27 Such an order would be a substantial burden on the parties
28 plaintiff, because they will all be required to participate in

1 the discovery and motion practice of one another. This will
2 dramatically increase the cost of the litigation and the time
3 burdens on the lawyers. While some benefit may inure to all
4 concerned, including the court, from a limited order related to a
5 coordination of the case vis-a-vis dispositive motion practice,
6 in that without question, one legal ruling on identical legal
7 issues is desirable, a wholesale consolidation as imagined by the
8 City's lawyer is not practicable.

9 Each plaintiff should be permitted to prepare his or her own
10 case without being hamstrung by the demands or worse, the lack of
11 diligence of any of the other lawyers. Moreover, contrary to the
12 moving party's claims, this will not increase its burden. For
13 each of these cases, the City has two sets of evidence. One set
14 applies to all of the cases; the other is the set which applies
15 to each individual plaintiff. The City will have to collect and
16 disclose this evidence howsoever, and whether or not, these cases
17 are corralled. No savings whatsoever will be banked if the cases
18 are consolidated. The City will have to provide each plaintiff
19 with the evidence which relates to all of the cases and with the
20 evidence which relates to that individual plaintiff.

21 In addition, there is not very much in legitimate contention
22 in any of these cases. Not only has the mRNA experiment proven
23 to be a catastrophic public policy failure, and must now under
24 the principles of medical ethics, be terminated, but also there
25 is no reasonable dispute that fetal cells were used in the
26 research and development of the mRNA products. (But see, MPA in
27 Sup. 10:17-22 [City appears to contend that there is no evidence
28 of such fetal cell research.]) Therefore, there is not much left

1 to dispute legally that the plaintiffs, and Mr. Cook in
2 particular, properly asserted a religious objection to the
3 government's mRNA experiment, notwithstanding their absolute
4 right not to be coerced into an unsound medical experiment
5 without their informed consent.

6 The law accords the City the means by which to clog the
7 courts with these cases for years and years, and to litigate to
8 the bitter end, every conceivable legal issue. The courts, as
9 part of the government, almost certainly will indulge this
10 strategy. However, such behavior would be antithetical to good
11 governance, if that's not merely a mythology. Further, it would
12 be antithetical to legal integrity. Obviously, there is no case
13 in the courts of today which can be called, "cut-and-dried," but
14 these cases, and Mr. Cook's in particular, is at least, pretty
15 close to that standard.

16 As a result, probably the most efficient use of the court's
17 resources, and this is an important issue in this motion, would
18 be the assignment of these cases, and Mr. Cook's in particular,
19 to a settlement program. Unfortunately, if the court grants the
20 motion to consolidate, the cases will not reach a settlement
21 discussion until many more hundreds of thousands of dollars are
22 wasted on an outcome which already looks fairly certain. This is
23 money which will be borne by the taxpayers of a city which is so
24 broke it has to cut its police force and leave its parking meters
25 on until midnight.

26 Accordingly, the court might consider a manner in which the
27 parties should cooperate in a dispositive motion proceeding at
28 some point at the end of this year or early next year, but

1 otherwise leave everyone to litigate his or her case without the
2 additional burdens proposed by the City's lawyer.

3 CONCLUSION

4 For the foregoing reasons, motion to consolidate, as
5 presented, should be denied.

6 Dated: May 26, 2023

7 Respectfully submitted,
8 s/ Hugo Torbet
9 Attorney for Joseph Cook
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Exhibit 1



Office of the Vice Chancellor for Research

Nuremberg Code

The Nuremberg Military Tribunal's decision in the case of the United States v Karl Brandt et al. includes what is now called the Nuremberg Code, a ten point statement delimiting permissible medical experimentation on human subjects. According to this statement, humane experimentation is justified only if its results benefit society and it is carried out in accord with basic principles that "satisfy moral, ethical, and legal concepts."

—"Permissible Medical Experiments." Trials of War Criminals before the Nuremberg Military Tribunals under Control Council Law No. 10. Nuremberg October 1946 – April 1949, Washington. U.S. Government Printing Office (n.d.), vol. 2., pp. 181-182.

1. The voluntary consent of the human subject is absolutely essential. This means that the person involved should have legal capacity to give consent; should be situated as to be able to exercise free power of choice, without the intervention of any element of force, fraud, deceit, duress, over-reaching, or other ulterior form of constraint or coercion, and should have sufficient knowledge and comprehension of the elements of the subject matter involved as to enable him to make an understanding and enlightened decision. This latter element requires that before the acceptance of an affirmative decision by the experimental subject there should be made known to him the nature, duration, and purpose of the experiment; the method and means by which it is to be conducted; all inconveniences and hazards reasonably to be expected; and the effects upon his health or person which may possibly come from his participation in the experiment.

The duty and responsibility for ascertaining the quality of the consent rests upon each individual who initiates, directs or engages in the experiment. It is a personal duty and responsibility which may not be delegated to another with impunity.

2. The experiment should be such as to yield fruitful results for the good of society, unprocurable by other methods or means of study, and not random and unnecessary in nature.
3. The experiment should be so designed and based on the results of animal experimentation and a knowledge of the natural history of the disease or other problem under study that the anticipated results will justify the performance of the experiment.
4. The experiment should be so conducted as to avoid all unnecessary physical and mental suffering and injury.
5. No experiment should be conducted where there is an a priori reason to believe that death or disabling injury will occur; except, perhaps, in those experiments where the experimental physicians also serve as subjects.
6. The degree of risk to be taken should never exceed that determined by the humanitarian importance of the problem to be solved by the experiment.
7. Proper preparations should be made and adequate facilities provided to protect the experimental subject against even remote possibilities of injury disability or death.
8. The experiment should be conducted only by scientifically qualified persons. The highest degree of skill and care should be required through all stages of the experiment of those who conduct or engage in the experiment.
9. During the course of the experiment the human subject should be at liberty to bring the experiment to an end if he has reached the physical or mental state where continuation of the experiment seems to him to be impossible.
10. During the course of the experiment the scientist in charge must be prepared to terminate the experiment at any stage, if he has probable cause to believe, in the exercise of the good faith, superior skill and careful judgement required by him that a continuation of the experiment is likely to result in injury, disability, or death to the experimental subject.

Exhibit 2

WMA DECLARATION OF HELSINKI – ETHICAL PRINCIPLES FOR MEDICAL RESEARCH INVOLVING HUMAN SUBJECTS

*Adopted by the 18th WMA General Assembly, Helsinki, Finland, June 1964
and amended by the:*

29th WMA General Assembly, Tokyo, Japan, October 1975

35th WMA General Assembly, Venice, Italy, October 1983

41st WMA General Assembly, Hong Kong, September 1989

48th WMA General Assembly, Somerset West, Republic of South Africa, October 1996

52nd WMA General Assembly, Edinburgh, Scotland, October 2000

53rd WMA General Assembly, Washington DC, USA, October 2002 (Note of Clarification added)

55th WMA General Assembly, Tokyo, Japan, October 2004 (Note of Clarification added)

59th WMA General Assembly, Seoul, Republic of Korea, October 2008

64th WMA General Assembly, Fortaleza, Brazil, October 2013

PREAMBLE

1. The World Medical Association (WMA) has developed the Declaration of Helsinki as a statement of ethical principles for medical research involving human subjects, including research on identifiable human material and data.

The Declaration is intended to be read as a whole and each of its constituent paragraphs should be applied with consideration of all other relevant paragraphs.

2. Consistent with the mandate of the WMA, the Declaration is addressed primarily to physicians. The WMA encourages others who are involved in medical research involving human subjects to adopt these principles.

GENERAL PRINCIPLES

3. The Declaration of Geneva of the WMA binds the physician with the words, “The health of my patient will be my first consideration,” and the International Code of Medical Ethics declares that, “A physician shall act in the patient’s best interest when providing medical care.”

4. It is the duty of the physician to promote and safeguard the health, well-being and rights of patients, including those who are involved in medical research. The physician’s knowledge and conscience are dedicated to the fulfilment of this duty.

5. Medical progress is based on research that ultimately must include studies involving human subjects.

6. The primary purpose of medical research involving human subjects is to understand the causes, development and effects of diseases and improve preventive, diagnostic and therapeutic interventions (methods, procedures and treatments). Even the best proven interventions must be evaluated continually through research for their safety, effectiveness, efficiency, accessibility and quality.

7. Medical research is subject to ethical standards that promote and ensure respect for all human subjects and protect their health and rights.

8. While the primary purpose of medical research is to generate new knowledge, this goal can never take precedence over the rights and interests of individual research subjects.

9. It is the duty of physicians who are involved in medical research to protect the life, health, dignity, integrity, right to self-determination, privacy, and confidentiality of personal information of research subjects. The responsibility for the protection of research subjects must always rest with the physician or other health care professionals and never with the research subjects, even though they have given consent.

10. Physicians must consider the ethical, legal and regulatory norms and standards for research involving human subjects in their own countries as well as applicable international norms and standards. No national or international ethical, legal or regulatory requirement should reduce or eliminate any of the protections for research subjects set forth in this Declaration.

11. Medical research should be conducted in a manner that minimises possible harm to the environment.

12. Medical research involving human subjects must be conducted only by individuals with the appropriate ethics and scientific education, training and qualifications. Research on patients or healthy volunteers requires the supervision of a competent and appropriately qualified physician or other health care professional.
13. Groups that are underrepresented in medical research should be provided appropriate access to participation in research.
14. Physicians who combine medical research with medical care should involve their patients in research only to the extent that this is justified by its potential preventive, diagnostic or therapeutic value and if the physician has good reason to believe that participation in the research study will not adversely affect the health of the patients who serve as research subjects.
15. Appropriate compensation and treatment for subjects who are harmed as a result of participating in research must be ensured.

Risks, Burdens and Benefits

16. In medical practice and in medical research, most interventions involve risks and burdens. Medical research involving human subjects may only be conducted if the importance of the objective outweighs the risks and burdens to the research subjects.
17. All medical research involving human subjects must be preceded by careful assessment of predictable risks and burdens to the individuals and groups involved in the research in comparison with foreseeable benefits to them and to other individuals or groups affected by the condition under investigation. Measures to minimise the risks must be implemented. The risks must be continuously monitored, assessed and documented by the researcher.
18. Physicians may not be involved in a research study involving human subjects unless they are confident that the risks have been adequately assessed and can be satisfactorily managed. When the risks are found to outweigh the potential benefits or when there is conclusive proof of definitive outcomes, physicians must assess whether to continue, modify or immediately stop the study.

Vulnerable Groups and Individuals

19. Some groups and individuals are particularly vulnerable and may have an increased likelihood of being wronged or of incurring additional harm. All vulnerable groups and individuals should receive specifically considered protection.
20. Medical research with a vulnerable group is only justified if the research is responsive to the health needs or priorities of this group and the research cannot be carried out in a non-vulnerable group. In addition, this group should stand to benefit from the knowledge, practices or interventions that result from the research.

Scientific Requirements and Research Protocols

21. Medical research involving human subjects must conform to generally accepted scientific principles, be based on a thorough knowledge of the scientific literature, other relevant sources of information, and adequate laboratory and, as appropriate, animal experimentation. The welfare of animals used for research must be respected.
22. The design and performance of each research study involving human subjects must be clearly described and justified in a research protocol. The protocol should contain a statement of the ethical considerations involved and should indicate how the principles in this Declaration have been addressed. The protocol should include information regarding funding, sponsors, institutional affiliations, potential conflicts of interest, incentives for subjects and information regarding provisions for treating and/or compensating subjects who are harmed as a consequence of participation in the research study. In clinical trials, the protocol must also describe appropriate arrangements for post-trial provisions.

Research Ethics Committees

23. The research protocol must be submitted for consideration, comment, guidance and approval to the concerned research ethics committee before the study begins. This committee must be transparent in its functioning, must be independent of the researcher, the sponsor and any other undue influence and must be duly qualified. It must take into consideration the laws and regulations of the country or countries in which the research is to be performed as well as applicable international norms and standards but these must not be allowed to reduce or eliminate any of the protections for research subjects set forth in this Declaration.

The committee must have the right to monitor ongoing studies. The researcher must provide monitoring information to the committee, especially information about any serious adverse events. No amendment to the protocol may be made without consideration and approval by the committee. After the end of the study, the researchers must submit a final report to the committee containing a summary of the study's findings and conclusions.

Privacy and Confidentiality

24. Every precaution must be taken to protect the privacy of research subjects and the confidentiality of their personal information.

Informed Consent

25. Participation by individuals capable of giving informed consent as subjects in medical research must be voluntary. Although it may be appropriate to consult family members or community leaders, no individual capable of giving informed consent may be enrolled in a research study unless he or she freely agrees.

26. In medical research involving human subjects capable of giving informed consent, each potential subject must be adequately informed of the aims, methods, sources of funding, any possible conflicts of interest, institutional affiliations of the researcher, the anticipated benefits and potential risks of the study and the discomfort it may entail, post-study provisions and any other relevant aspects of the study. The potential subject must be informed of the right to refuse to participate in the study or to withdraw consent to participate at any time without reprisal. Special attention should be given to the specific information needs of individual potential subjects as well as to the methods used to deliver the information.

After ensuring that the potential subject has understood the information, the physician or another appropriately qualified individual must then seek the potential subject's freely-given informed consent, preferably in writing. If the consent cannot be expressed in writing, the non-written consent must be formally documented and witnessed.

All medical research subjects should be given the option of being informed about the general outcome and results of the study.

27. When seeking informed consent for participation in a research study the physician must be particularly cautious if the potential subject is in a dependent relationship with the physician or may consent under duress. In such situations the informed consent must be sought by an appropriately qualified individual who is completely independent of this relationship.

28. For a potential research subject who is incapable of giving informed consent, the physician must seek informed consent from the legally authorised representative. These individuals must not be included in a research study that has no likelihood of benefit for them unless it is intended to promote the health of the group represented by the potential subject, the research cannot instead be performed with persons capable of providing informed consent, and the research entails only minimal risk and minimal burden.

29. When a potential research subject who is deemed incapable of giving informed consent is able to give assent to decisions about participation in research, the physician must seek that assent in addition to the consent of the legally authorised representative. The potential subject's dissent should be respected.

30. Research involving subjects who are physically or mentally incapable of giving consent, for example, unconscious patients, may be done only if the physical or mental condition that prevents giving informed consent is a necessary characteristic of the research group. In such circumstances the physician must seek informed consent from the legally authorised representative. If no such representative is available and if the research cannot be delayed, the study may proceed without informed consent provided that the specific reasons for involving subjects with a condition that renders them unable to give informed consent have been stated in the research protocol and the study has been approved by a research ethics committee. Consent to remain in the research must be obtained as soon as possible from the subject or a legally authorised representative.

31. The physician must fully inform the patient which aspects of their care are related to the research. The refusal of a patient to participate in a study or the patient's decision to withdraw from the study must never adversely affect the patient-physician relationship.

32. For medical research using identifiable human material or data, such as research on material or data contained in biobanks or similar repositories, physicians must seek informed consent for its collection, storage and/or reuse. There may be exceptional situations where consent would be impossible or impracticable to obtain for such research. In such situations the research may be done only after consideration and approval of a research ethics committee.

Use of Placebo

33. The benefits, risks, burdens and effectiveness of a new intervention must be tested against those of the best proven intervention(s), except in the following circumstances:

Where no proven intervention exists, the use of placebo, or no intervention, is acceptable; or

Where for compelling and scientifically sound methodological reasons the use of any intervention less effective than the best proven one, the use of placebo, or no intervention is necessary to determine the efficacy or safety of an intervention

and the patients who receive any intervention less effective than the best proven one, placebo, or no intervention will not be subject to additional risks of serious or irreversible harm as a result of not receiving the best proven intervention.

Extreme care must be taken to avoid abuse of this option.

Post-Trial Provisions

34. In advance of a clinical trial, sponsors, researchers and host country governments should make provisions for post-trial access for all participants who still need an intervention identified as beneficial in the trial. This information must also be disclosed to participants during the informed consent process.

Research Registration and Publication and Dissemination of Results

35. Every research study involving human subjects must be registered in a publicly accessible database before recruitment of the first subject.

36. Researchers, authors, sponsors, editors and publishers all have ethical obligations with regard to the publication and dissemination of the results of research. Researchers have a duty to make publicly available the results of their research on human subjects and are accountable for the completeness and accuracy of their reports. All parties should adhere to accepted guidelines for ethical reporting. Negative and inconclusive as well as positive results must be published or otherwise made publicly available. Sources of funding, institutional affiliations and conflicts of interest must be declared in the publication. Reports of research not in accordance with the principles of this Declaration should not be accepted for publication.

Unproven Interventions in Clinical Practice

37. In the treatment of an individual patient, where proven interventions do not exist or other known interventions have been ineffective, the physician, after seeking expert advice, with informed consent from the patient or a legally authorised representative, may use an unproven intervention if in the physician's judgement it offers hope of saving life, re-establishing health or alleviating suffering. This intervention should subsequently be made the object of research, designed to evaluate its safety and efficacy. In all cases, new information must be recorded and, where appropriate, made publicly available.

Exhibit 3

THE BELMONT REPORT

Office of the Secretary

Ethical Principles and Guidelines for the Protection of Human
Subjects of Research

The National Commission for the Protection of Human Subjects of
Biomedical and Behavioral Research

April 18, 1979

AGENCY: Department of Health, Education, and Welfare.

ACTION: Notice of Report for Public Comment.

SUMMARY: On July 12, 1974, the National Research Act (Pub. L. 93-348) was signed into law, there-by creating the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. One of the charges to the Commission was to identify the basic ethical principles that should underlie the conduct of biomedical and behavioral research involving human subjects and to develop guidelines which should be followed to assure that such research is conducted in accordance with those principles. In carrying out the above, the Commission was directed to consider: **(i)** the boundaries between biomedical and behavioral research and the accepted and routine practice of medicine, **(ii)** the role of assessment of risk-benefit criteria in the determination of the appropriateness of research involving human subjects, **(iii)** appropriate guidelines for the selection of human subjects for participation in such research and **(iv)** the nature and definition of informed consent in various research settings.

The Belmont Report attempts to summarize the basic ethical principles identified by the Commission in the course of its deliberations. It is the outgrowth of an intensive four-day period of discussions that were held in February 1976 at the Smithsonian Institution's Belmont Conference Center supplemented by the monthly deliberations of the Commission that were held over a period of nearly four years. It is a statement of basic ethical principles and guidelines that should assist in resolving the ethical problems that surround the conduct of research with human subjects. By publishing the Report in the Federal Register, and providing reprints upon request, the Secretary intends that it may be made readily available to scientists, members of Institutional Review Boards, and Federal employees. The two-volume Appendix, containing the lengthy reports of experts and specialists who assisted the Commission in fulfilling this part of its charge, is available as DHEW Publication No. (OS) 78-0013 and No. (OS) 78-0014, for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Unlike most other reports of the Commission, the Belmont Report does not make specific recommendations for administrative action by the Secretary of Health, Education, and Welfare. Rather, the Commission recommended that the Belmont Report be adopted in its entirety, as a statement of the Department's policy. The Department requests public comment on this recommendation.

National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research

Members of the Commission

Kenneth John Ryan, M.D., Chairman, Chief of Staff, Boston Hospital for Women.

Joseph V. Brady, Ph.D., Professor of Behavioral Biology, Johns Hopkins University.

Robert E. Cooke, M.D., President, Medical College of Pennsylvania.

Dorothy I. Height, President, National Council of Negro Women, Inc.

Albert R. Jonsen, Ph.D., Associate Professor of Bioethics, University of California at San Francisco.

Patricia King, J.D., Associate Professor of Law, Georgetown University Law Center.

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Ethical Principles & Guidelines for Research Involving Human Subjects

Scientific research has produced substantial social benefits. It has also posed some troubling ethical questions. Public attention was drawn to these questions by reported abuses of human subjects in biomedical experiments, especially during the Second World War. During the Nuremberg War Crime Trials, the Nuremberg code was drafted as a set of standards for judging physicians and scientists who had conducted biomedical experiments on concentration camp prisoners. This code became the prototype of many later codes [1] intended to assure that research involving human subjects would be carried out in an ethical manner.

The codes consist of rules, some general, others specific, that guide the investigators or the reviewers of research in their work. Such rules often are inadequate to cover complex situations; at times they come into conflict, and they are frequently difficult to interpret or apply. Broader ethical principles will provide a basis on which specific rules may be formulated, criticized and interpreted.

Three principles, or general prescriptive judgments, that are relevant to research involving human subjects are identified in this statement. Other principles may also be relevant. These three are comprehensive, however, and are stated at a level of generalization that should assist scientists, subjects, reviewers and interested citizens to understand the ethical issues inherent in research involving human subjects. These principles cannot always be applied so as to resolve beyond dispute particular ethical problems. The objective is to provide an analytical framework that will guide the resolution of ethical problems arising from research involving human subjects.

This statement consists of a distinction between research and practice, a discussion of the three basic ethical principles, and remarks about the application of these principles.

Part A: Boundaries Between Practice & Research

A. Boundaries Between Practice and Research

It is important to distinguish between biomedical and behavioral research, on the one hand, and the practice of accepted therapy on the other, in order to know what activities ought to undergo review for the protection of human subjects of research. The distinction between research and practice is blurred partly because both often occur together (as in research designed to evaluate a therapy) and partly because notable departures from standard practice are often called "experimental" when the terms "experimental" and "research" are not carefully defined.

For the most part, the term "practice" refers to interventions that are designed solely to enhance the well-being of an individual patient or client and that have a reasonable expectation of success. The purpose of medical or behavioral practice is to provide diagnosis, preventive treatment or therapy to particular individuals [2]. By contrast, the term "research" designates an activity designed to test an hypothesis, permit conclusions to be drawn, and thereby to develop or contribute to generalizable knowledge (expressed, for example, in theories, principles, and statements of relationships). Research is usually described in a formal protocol that sets forth an objective and a set of procedures designed to reach that objective.

When a clinician departs in a significant way from standard or accepted practice, the innovation does not, in and of itself, constitute research. The fact that a procedure is "experimental," in the sense of new, untested or different, does not automatically place it in the category of research. Radically new procedures of this

description should, however, be made the object of formal research at an early stage in order to determine whether they are safe and effective. Thus, it is the responsibility of medical practice committees, for example, to insist that a major innovation be incorporated into a formal research project [3].

Research and practice may be carried on together when research is designed to evaluate the safety and efficacy of a therapy. This need not cause any confusion regarding whether or not the activity requires review; the general rule is that if there is any element of research in an activity, that activity should undergo review for the protection of human subjects.

Part B: Basic Ethical Principles

B. Basic Ethical Principles

The expression "basic ethical principles" refers to those general judgments that serve as a basic justification for the many particular ethical prescriptions and evaluations of human actions. Three basic principles, among those generally accepted in our cultural tradition, are particularly relevant to the ethics of research involving human subjects: the principles of respect for persons, beneficence and justice.

1. Respect for Persons. — Respect for persons incorporates at least two ethical convictions: first, that individuals should be treated as autonomous agents, and second, that persons with diminished autonomy are entitled to protection. The principle of respect for persons thus divides into two separate moral requirements: the requirement to acknowledge autonomy and the requirement to protect those with diminished autonomy.

An autonomous person is an individual capable of deliberation about personal goals and of acting under the direction of such deliberation. To respect autonomy is to give weight to autonomous persons' considered opinions and choices while refraining from obstructing their actions unless they are clearly detrimental to others. To show lack of respect for an autonomous agent is to repudiate that person's considered judgments, to deny an individual the freedom to act on those considered judgments, or to withhold information necessary to make a considered judgment, when there are no compelling reasons to do so.

However, not every human being is capable of self-determination. The capacity for self-determination matures during an individual's life, and some individuals lose this capacity wholly or in part because of illness, mental disability, or circumstances that severely restrict liberty. Respect for the immature and the incapacitated may require protecting them as they mature or while they are incapacitated.

Some persons are in need of extensive protection, even to the point of excluding them from activities which may harm them; other persons require little protection beyond making sure they undertake activities freely and with awareness of possible adverse consequence. The extent of protection afforded should depend upon the risk of harm and the likelihood of benefit. The judgment that any individual lacks autonomy should be periodically reevaluated and will vary in different situations.

In most cases of research involving human subjects, respect for persons demands that subjects enter into the research voluntarily and with adequate information. In some situations, however, application of the principle is not obvious. The involvement of prisoners as subjects of research provides an instructive example. On the one hand, it would seem that the principle of respect for persons requires that prisoners not be deprived of the opportunity to volunteer for research. On the other hand, under prison conditions they may be subtly coerced or unduly influenced to engage in research activities for which they would not otherwise volunteer. Respect for persons would then dictate that prisoners be protected. Whether to allow

prisoners to "volunteer" or to "protect" them presents a dilemma. Respecting persons, in most hard cases, is often a matter of balancing competing claims urged by the principle of respect itself.

2. Beneficence. — Persons are treated in an ethical manner not only by respecting their decisions and protecting them from harm, but also by making efforts to secure their well-being. Such treatment falls under the principle of beneficence. The term "beneficence" is often understood to cover acts of kindness or charity that go beyond strict obligation. In this document, beneficence is understood in a stronger sense, as an obligation. Two general rules have been formulated as complementary expressions of beneficent actions in this sense: **(1)** do not harm and **(2)** maximize possible benefits and minimize possible harms.

The Hippocratic maxim "do no harm" has long been a fundamental principle of medical ethics. Claude Bernard extended it to the realm of research, saying that one should not injure one person regardless of the benefits that might come to others. However, even avoiding harm requires learning what is harmful; and, in the process of obtaining this information, persons may be exposed to risk of harm. Further, the Hippocratic Oath requires physicians to benefit their patients "according to their best judgment." Learning what will in fact benefit may require exposing persons to risk. The problem posed by these imperatives is to decide when it is justifiable to seek certain benefits despite the risks involved, and when the benefits should be foregone because of the risks.

The obligations of beneficence affect both individual investigators and society at large, because they extend both to particular research projects and to the entire enterprise of research. In the case of particular projects, investigators and members of their institutions are obliged to give forethought to the maximization of benefits and the reduction of risk that might occur from the research investigation. In the case of scientific research in general, members of the larger society are obliged to recognize the longer term benefits and risks that may result from the improvement of knowledge and from the development of novel medical, psychotherapeutic, and social procedures.

The principle of beneficence often occupies a well-defined justifying role in many areas of research involving human subjects. An example is found in research involving children. Effective ways of treating childhood diseases and fostering healthy development are benefits that serve to justify research involving children -- even when individual research subjects are not direct beneficiaries. Research also makes it possible to avoid the harm that may result from the application of previously accepted routine practices that on closer investigation turn out to be dangerous. But the role of the principle of beneficence is not always so unambiguous. A difficult ethical problem remains, for example, about research that presents more than minimal risk without immediate prospect of direct benefit to the children involved. Some have argued that such research is inadmissible, while others have pointed out that this limit would rule out much research promising great benefit to children in the future. Here again, as with all hard cases, the different claims covered by the principle of beneficence may come into conflict and force difficult choices.

3. Justice. — Who ought to receive the benefits of research and bear its burdens? This is a question of justice, in the sense of "fairness in distribution" or "what is deserved." An injustice occurs when some benefit to which a person is entitled is denied without good reason or when some burden is imposed unduly. Another way of conceiving the principle of justice is that equals ought to be treated equally. However, this statement requires explication. Who is equal and who is unequal? What considerations justify departure from equal distribution? Almost all commentators allow that distinctions based on experience, age, deprivation, competence, merit and position do sometimes constitute criteria justifying differential treatment for certain purposes. It is necessary, then, to explain in what respects people should be treated equally. There are several widely accepted formulations of just ways to distribute burdens and benefits. Each formulation mentions some relevant property on the basis of which burdens and benefits should be distributed. These formulations are **(1)** to each person an equal share, **(2)** to each person according to individual need, **(3)** to each person according to individual effort, **(4)** to each person according to societal contribution, and **(5)** to each person according to merit.

Questions of justice have long been associated with social practices such as punishment, taxation and political representation. Until recently these questions have not generally been associated with scientific research. However, they are foreshadowed even in the earliest reflections on the ethics of research involving human subjects. For example, during the 19th and early 20th centuries the burdens of serving as research subjects fell largely upon poor ward patients, while the benefits of improved medical care flowed primarily to private patients. Subsequently, the exploitation of unwilling prisoners as research subjects in Nazi concentration camps was condemned as a particularly flagrant injustice. In this country, in the 1940's, the Tuskegee syphilis study used disadvantaged, rural black men to study the untreated course of a disease that is by no means confined to that population. These subjects were deprived of demonstrably effective treatment in order not to interrupt the project, long after such treatment became generally available.

Against this historical background, it can be seen how conceptions of justice are relevant to research involving human subjects. For example, the selection of research subjects needs to be scrutinized in order to determine whether some classes (e.g., welfare patients, particular racial and ethnic minorities, or persons confined to institutions) are being systematically selected simply because of their easy availability, their compromised position, or their manipulability, rather than for reasons directly related to the problem being studied. Finally, whenever research supported by public funds leads to the development of therapeutic devices and procedures, justice demands both that these not provide advantages only to those who can afford them and that such research should not unduly involve persons from groups unlikely to be among the beneficiaries of subsequent applications of the research.

Part C: Applications

C. Applications

Applications of the general principles to the conduct of research leads to consideration of the following requirements: informed consent, risk/benefit assessment, and the selection of subjects of research.

1. Informed Consent. — Respect for persons requires that subjects, to the degree that they are capable, be given the opportunity to choose what shall or shall not happen to them. This opportunity is provided when adequate standards for informed consent are satisfied.

While the importance of informed consent is unquestioned, controversy prevails over the nature and possibility of an informed consent. Nonetheless, there is widespread agreement that the consent process can be analyzed as containing three elements: information, comprehension and voluntariness.

Information. Most codes of research establish specific items for disclosure intended to assure that subjects are given sufficient information. These items generally include: the research procedure, their purposes, risks and anticipated benefits, alternative procedures (where therapy is involved), and a statement offering the subject the opportunity to ask questions and to withdraw at any time from the research. Additional items have been proposed, including how subjects are selected, the person responsible for the research, etc.

However, a simple listing of items does not answer the question of what the standard should be for judging how much and what sort of information should be provided. One standard frequently invoked in medical practice, namely the information commonly provided by practitioners in the field or in the locale, is inadequate since research takes place precisely when a common understanding does not exist. Another standard, currently popular in malpractice law, requires the practitioner to reveal the information that reasonable persons would wish to know in order to make a decision regarding their care. This, too, seems insufficient since the research subject, being in essence a volunteer, may wish to know considerably more about risks gratuitously undertaken than do patients who deliver themselves into the hand of a clinician for

needed care. It may be that a standard of "the reasonable volunteer" should be proposed: the extent and nature of information should be such that persons, knowing that the procedure is neither necessary for their care nor perhaps fully understood, can decide whether they wish to participate in the furthering of knowledge. Even when some direct benefit to them is anticipated, the subjects should understand clearly the range of risk and the voluntary nature of participation.

A special problem of consent arises where informing subjects of some pertinent aspect of the research is likely to impair the validity of the research. In many cases, it is sufficient to indicate to subjects that they are being invited to participate in research of which some features will not be revealed until the research is concluded. In all cases of research involving incomplete disclosure, such research is justified only if it is clear that **(1)** incomplete disclosure is truly necessary to accomplish the goals of the research, **(2)** there are no undisclosed risks to subjects that are more than minimal, and **(3)** there is an adequate plan for debriefing subjects, when appropriate, and for dissemination of research results to them. Information about risks should never be withheld for the purpose of eliciting the cooperation of subjects, and truthful answers should always be given to direct questions about the research. Care should be taken to distinguish cases in which disclosure would destroy or invalidate the research from cases in which disclosure would simply inconvenience the investigator.

Comprehension. The manner and context in which information is conveyed is as important as the information itself. For example, presenting information in a disorganized and rapid fashion, allowing too little time for consideration or curtailing opportunities for questioning, all may adversely affect a subject's ability to make an informed choice.

Because the subject's ability to understand is a function of intelligence, rationality, maturity and language, it is necessary to adapt the presentation of the information to the subject's capacities. Investigators are responsible for ascertaining that the subject has comprehended the information. While there is always an obligation to ascertain that the information about risk to subjects is complete and adequately comprehended, when the risks are more serious, that obligation increases. On occasion, it may be suitable to give some oral or written tests of comprehension.

Special provision may need to be made when comprehension is severely limited -- for example, by conditions of immaturity or mental disability. Each class of subjects that one might consider as incompetent (e.g., infants and young children, mentally disable patients, the terminally ill and the comatose) should be considered on its own terms. Even for these persons, however, respect requires giving them the opportunity to choose to the extent they are able, whether or not to participate in research. The objections of these subjects to involvement should be honored, unless the research entails providing them a therapy unavailable elsewhere. Respect for persons also requires seeking the permission of other parties in order to protect the subjects from harm. Such persons are thus respected both by acknowledging their own wishes and by the use of third parties to protect them from harm.

The third parties chosen should be those who are most likely to understand the incompetent subject's situation and to act in that person's best interest. The person authorized to act on behalf of the subject should be given an opportunity to observe the research as it proceeds in order to be able to withdraw the subject from the research, if such action appears in the subject's best interest.

Voluntariness. An agreement to participate in research constitutes a valid consent only if voluntarily given. This element of informed consent requires conditions free of coercion and undue influence. Coercion occurs when an overt threat of harm is intentionally presented by one person to another in order to obtain compliance. Undue influence, by contrast, occurs through an offer of an excessive, unwarranted, inappropriate or improper reward or other overture in order to obtain compliance. Also, inducements that would ordinarily be acceptable may become undue influences if the subject is especially vulnerable.

Unjustifiable pressures usually occur when persons in positions of authority or commanding influence -- especially where possible sanctions are involved -- urge a course of action for a subject. A continuum of

such influencing factors exists, however, and it is impossible to state precisely where justifiable persuasion ends and undue influence begins. But undue influence would include actions such as manipulating a person's choice through the controlling influence of a close relative and threatening to withdraw health services to which an individual would otherwise be entitled.

2. Assessment of Risks and Benefits. — The assessment of risks and benefits requires a careful array of relevant data, including, in some cases, alternative ways of obtaining the benefits sought in the research. Thus, the assessment presents both an opportunity and a responsibility to gather systematic and comprehensive information about proposed research. For the investigator, it is a means to examine whether the proposed research is properly designed. For a review committee, it is a method for determining whether the risks that will be presented to subjects are justified. For prospective subjects, the assessment will assist the determination whether or not to participate.

The Nature and Scope of Risks and Benefits. The requirement that research be justified on the basis of a favorable risk/benefit assessment bears a close relation to the principle of beneficence, just as the moral requirement that informed consent be obtained is derived primarily from the principle of respect for persons. The term "risk" refers to a possibility that harm may occur. However, when expressions such as "small risk" or "high risk" are used, they usually refer (often ambiguously) both to the chance (probability) of experiencing a harm and the severity (magnitude) of the envisioned harm.

The term "benefit" is used in the research context to refer to something of positive value related to health or welfare. Unlike, "risk," "benefit" is not a term that expresses probabilities. Risk is properly contrasted to probability of benefits, and benefits are properly contrasted with harms rather than risks of harm. Accordingly, so-called risk/benefit assessments are concerned with the probabilities and magnitudes of possible harm and anticipated benefits. Many kinds of possible harms and benefits need to be taken into account. There are, for example, risks of psychological harm, physical harm, legal harm, social harm and economic harm and the corresponding benefits. While the most likely types of harms to research subjects are those of psychological or physical pain or injury, other possible kinds should not be overlooked.

Risks and benefits of research may affect the individual subjects, the families of the individual subjects, and society at large (or special groups of subjects in society). Previous codes and Federal regulations have required that risks to subjects be outweighed by the sum of both the anticipated benefit to the subject, if any, and the anticipated benefit to society in the form of knowledge to be gained from the research. In balancing these different elements, the risks and benefits affecting the immediate research subject will normally carry special weight. On the other hand, interests other than those of the subject may on some occasions be sufficient by themselves to justify the risks involved in the research, so long as the subjects' rights have been protected. Beneficence thus requires that we protect against risk of harm to subjects and also that we be concerned about the loss of the substantial benefits that might be gained from research.

The Systematic Assessment of Risks and Benefits. It is commonly said that benefits and risks must be "balanced" and shown to be "in a favorable ratio." The metaphorical character of these terms draws attention to the difficulty of making precise judgments. Only on rare occasions will quantitative techniques be available for the scrutiny of research protocols. However, the idea of systematic, nonarbitrary analysis of risks and benefits should be emulated insofar as possible. This ideal requires those making decisions about the justifiability of research to be thorough in the accumulation and assessment of information about all aspects of the research, and to consider alternatives systematically. This procedure renders the assessment of research more rigorous and precise, while making communication between review board members and investigators less subject to misinterpretation, misinformation and conflicting judgments. Thus, there should first be a determination of the validity of the presuppositions of the research; then the nature, probability and magnitude of risk should be distinguished with as much clarity as possible. The method of ascertaining risks should be explicit, especially where there is no alternative to the use of such vague categories as small or slight risk. It should also be determined whether an investigator's estimates of the probability of harm or benefits are reasonable, as judged by known facts or other available studies.

Finally, assessment of the justifiability of research should reflect at least the following considerations: **(i)** Brutal or inhumane treatment of human subjects is never morally justified. **(ii)** Risks should be reduced to those necessary to achieve the research objective. It should be determined whether it is in fact necessary to use human subjects at all. Risk can perhaps never be entirely eliminated, but it can often be reduced by careful attention to alternative procedures. **(iii)** When research involves significant risk of serious impairment, review committees should be extraordinarily insistent on the justification of the risk (looking usually to the likelihood of benefit to the subject -- or, in some rare cases, to the manifest voluntariness of the participation). **(iv)** When vulnerable populations are involved in research, the appropriateness of involving them should itself be demonstrated. A number of variables go into such judgments, including the nature and degree of risk, the condition of the particular population involved, and the nature and level of the anticipated benefits. **(v)** Relevant risks and benefits must be thoroughly arrayed in documents and procedures used in the informed consent process.

3. Selection of Subjects. — Just as the principle of respect for persons finds expression in the requirements for consent, and the principle of beneficence in risk/benefit assessment, the principle of justice gives rise to moral requirements that there be fair procedures and outcomes in the selection of research subjects.

Justice is relevant to the selection of subjects of research at two levels: the social and the individual. Individual justice in the selection of subjects would require that researchers exhibit fairness: thus, they should not offer potentially beneficial research only to some patients who are in their favor or select only "undesirable" persons for risky research. Social justice requires that distinction be drawn between classes of subjects that ought, and ought not, to participate in any particular kind of research, based on the ability of members of that class to bear burdens and on the appropriateness of placing further burdens on already burdened persons. Thus, it can be considered a matter of social justice that there is an order of preference in the selection of classes of subjects (e.g., adults before children) and that some classes of potential subjects (e.g., the institutionalized mentally infirm or prisoners) may be involved as research subjects, if at all, only on certain conditions.

Injustice may appear in the selection of subjects, even if individual subjects are selected fairly by investigators and treated fairly in the course of research. Thus injustice arises from social, racial, sexual and cultural biases institutionalized in society. Thus, even if individual researchers are treating their research subjects fairly, and even if IRBs are taking care to assure that subjects are selected fairly within a particular institution, unjust social patterns may nevertheless appear in the overall distribution of the burdens and benefits of research. Although individual institutions or investigators may not be able to resolve a problem that is pervasive in their social setting, they can consider distributive justice in selecting research subjects.

Some populations, especially institutionalized ones, are already burdened in many ways by their infirmities and environments. When research is proposed that involves risks and does not include a therapeutic component, other less burdened classes of persons should be called upon first to accept these risks of research, except where the research is directly related to the specific conditions of the class involved. Also, even though public funds for research may often flow in the same directions as public funds for health care, it seems unfair that populations dependent on public health care constitute a pool of preferred research subjects if more advantaged populations are likely to be the recipients of the benefits.

One special instance of injustice results from the involvement of vulnerable subjects. Certain groups, such as racial minorities, the economically disadvantaged, the very sick, and the institutionalized may continually be sought as research subjects, owing to their ready availability in settings where research is conducted. Given their dependent status and their frequently compromised capacity for free consent, they should be protected against the danger of being involved in research solely for administrative convenience, or because they are easy to manipulate as a result of their illness or socioeconomic condition.

[1] Since 1945, various codes for the proper and responsible conduct of human experimentation in medical research have been adopted by different organizations. The best known of these codes are the Nuremberg Code of 1947, the Helsinki Declaration of 1964 (revised in 1975), and the 1971 Guidelines (codified into Federal Regulations in 1974) issued by the U.S. Department of Health, Education, and Welfare. Codes for the conduct of social and behavioral research have also been adopted, the best known being that of the American Psychological Association, published in 1973.

[2] Although practice usually involves interventions designed solely to enhance the well-being of a particular individual, interventions are sometimes applied to one individual for the enhancement of the well-being of another (e.g., blood donation, skin grafts, organ transplants) or an intervention may have the dual purpose of enhancing the well-being of a particular individual, and, at the same time, providing some benefit to others (e.g., vaccination, which protects both the person who is vaccinated and society generally). The fact that some forms of practice have elements other than immediate benefit to the individual receiving an intervention, however, should not confuse the general distinction between research and practice. Even when a procedure applied in practice may benefit some other person, it remains an intervention designed to enhance the well-being of a particular individual or groups of individuals; thus, it is practice and need not be reviewed as research.

[3] Because the problems related to social experimentation may differ substantially from those of biomedical and behavioral research, the Commission specifically declines to make any policy determination regarding such research at this time. Rather, the Commission believes that the problem ought to be addressed by one of its successor bodies.

Exhibit 4

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SPECIAL TEXT NO. 8

STRATEGICAL PSYCHOLOGICAL WARFARE

15 February 1949

**PUBLISHED AT
THE GROUND GENERAL SCHOOL**

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Chapter 1

INTRODUCTION

1. **PURPOSE AND SCOPE.** *a.* The purpose of this special text is to provide those students taking army extension courses in psychological warfare specialization or in the psychological warfare aspects of military intelligence with the materials necessary to understand the history of, reasons for and functioning of modern strategic psychological warfare (or long-range propaganda).

b. It includes a brief survey of the background of psychological warfare and the principles on which it is operated; it distinguishes between *strategic* and the other fields of psychological warfare activity; it considers the organizational possibilities for psychological warfare work especially in the overseas theaters; it explains the role played by printed matter in the form of leaflets and newspapers; it emphasizes the importance of the dissemination of this printed matter and examines how this dissemination can best be obtained; finally, it analyzes the vital place of the radio in psychological warfare and states the basic principles and techniques to be followed in operating this radio activity.

2. **THE THREE FIELDS OF PSYCHOLOGICAL WARFARE.** It is conventional to divide psychological warfare into three categories:

a. Strategic—which consists of “timeless” general themes which can be used for long periods of time against a given enemy anywhere, either against troops or against the enemy home front.

b. Tactical—where the effort is directed primarily against enemy troops in the battle zones and where the arguments and messages are based on momentary local situations.

c. Consolidation—which aims at the education and organization of the populace of an occupied area.

3. **THE DISTINCTION NOT ALWAYS EASY TO MAKE.** It is emphasized that the distinction made in paragraph 2 is completely valid only insofar as it affects the organization of operational units and teams. In many cases it would be highly artificial and inaccurate to make the same distinction with regard to the ideas and propaganda themes utilized. Frequently, a theme classified as “strategic” can be used with profit in a “tactical” situation. In like manner, “strategic” arguments enter into the program of “consolidation operations”.

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a. To illustrate the above, you have in Figures 1 and 2 reproductions of the obverse and reverse of a leaflet which the Germans used against a British unit on the Anzio beachhead. It was "tactical" in the sense that it was intended to depress the morale of hard-pressed troops under heavy enemy fire. But it was only one angle of a long-range German propaganda campaign designed to exploit real or imagined prejudices and jealousies which divided British and Americans; in that sense, it was "strategic".

b. During World War II our strategic psychological warfare service used radio and leaflets to give wide dissemination in Germany, Italy, Japan and elsewhere to the texts of the Atlantic Charter and the various proclamations of Roosevelt and Churchill. The principles contained in those texts are the same ones used by our psychological warfare service in the re-education of the populations of occupied territory.

c. Thus, no hard-and-fast distinction can be made between "strategic" psychological warfare *as far as themes are concerned*. There are innumerable cases where "tactical" themes could not be used by the "strategic" units and many elements of a local nature enter into the "consolidation" aspect which are not "strategic"—but modifications of many "strategic" themes can be employed with profit by one or both of the other two services.

British Soldiers!

You are fighting and dying far away from your country while the Yanks are putting up their tents in Merry Old England. They've got lots of money and loads of time to chase after your women.



And what about you?

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FIGURE 1

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"You Americans are sooo different!"

FIGURE 2

Chapter 2

HISTORY AND PRINCIPLES

4. **DEFINITION.** Strategic psychological warfare means the wartime use of long-range propaganda to enemies and neutrals in support of military and political operations. Some of its themes and arguments are based on permanent political principles which remain the same through the centuries; others are less permanent and may have to be changed when a major political or military development modifies the situation in the world or in any large area thereof. But, the very term *strategic* indicates that the basic themes and arguments are generally applicable against enemies and neutrals everywhere and there is little likelihood of their having to be changed within a short period of time.

5. **ROLE IN TOTAL WAR.** Military and political strategists have come to think of the "shooting war" as being only the final phase of "total war".

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It is preceded by a period of "cold war" in which every effort is made to attain the desired objectives by diplomatic negotiation and economic pressure. In connection with these, an elaborate psychological campaign is carried on by press and radio to convince the world of the right and justice of one's own position. Just as actual war is only the last step in a larger, overall political operation, so strategic psychological warfare is the continuation and prolongation in time of war of a propaganda campaign which was started long before during the years of peace.

6. AN ANCIENT ACTIVITY. Any discussion of psychological warfare must begin with the statement that there is nothing new about it. Since the dawn of history men have resorted to the same familiar techniques in order to induce in the mind of a rival or opponent an attitude or frame of mind favorable to their own purposes. If a potential customer can be persuaded that *he wants* the article you have for sale, your worries are over as far as he is concerned. By the same token, if an active enemy can be led to believe that his cause is unjust (and/or that his leaders are evil or incompetent and/or that you have an insuperable advantage in equipment and weapons) and that therefore *he hasn't a chance against you*, your struggle is already more than half won. History abounds in instances of successful psychological warfare: there is the story of Gideon vs Midianites in the Old Testament, the ruse of Ghengis Khan as his hordes swept over the vast area from the Danube to the Pacific Ocean.

7. MODERN APPLICATION. There is, then, nothing fundamentally new about the *principles* of psychological warfare. What is new is the improved techniques of the science of psychology, the systematic study by the experimental method of how men's minds work, the vastly expanded media for disseminating the spoken and written word to larger and larger audiences—and the forging of all these elements into a streamlined precision tool for influencing the thought of large masses of people.

8. GERMAN GENERAL STAFF CONCLUSIONS. In the years following 1918 the German General Staff set its best brains to work to discover why defeat had come to Germany despite the fact that ample and well-trained forces remained intact, and the internal economic condition of the country at that time was far from desperate. They came to the conclusion very quickly that defeat had been caused by a disintegration of national morale rather than by military disaster or economic collapse. According to their analysis, there are three stages in preparing a nation for modern war: *psychological* (to strengthen and toughen the morale of one's own people and undermine and weaken that of probable enemies and neutrals), *economic*, *military*, in that sequence and in that order of importance. They were convinced that the defeat of Germany in 1918 was to be explained by the failure to make adequate provision for the first stage.

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9. GERMAN GENERAL STAFF PREPARATORY MEASURES. Accepting the accuracy of the above conclusions, the German General Staff approached the study of the problem with characteristic teutonic thoroughness. A vast network of schools and laboratories, staffed with their ablest psychologists and technicians, set about the task of determining how the psychological weapon could best be used to:

- a. Induce the desired frame of mind in the population of the home country and
- b. Frighten, convert, or confuse potential enemies or neutrals.

10. RESULTS OF GERMAN MILITARY RESEARCH. A study of the results and decisions of these German researchers affords us an excellent insight into the evolution of modern scientific propaganda as a part of political warfare, in time of peace as well as in time of war. It was they who handed to Josef Goebbels, when the Nazis came to power in 1933, this fearsome weapon of which he was to make such effective use in the following decade. It was by the study of their methods and techniques that Allied psychological warfare experts laid the foundation which enabled our people to overtake and surpass enemy propagandists in the course of World War II.

11. THE NEW PSYCHOLOGICAL "WEAPON". Applied psychology, coordinated with economic and diplomatic operations before the war and with military and political operations during the war, is one of the great new inventions of "total" war, it is an offensive weapon designed to destroy the morale of the enemy's civilian population and armed forces, and to lower enemy prestige in the eyes of neutrals. It knows no limitations in time or space; it is conducted before, during, and after the war against both the home and military fronts of the actual belligerents as well as in the territories of neutral nations.

12. SUCCESS WITHOUT SHOOTING. a. Recurring constantly in the writings of all German commentators on psychological warfare is the statement that the propaganda campaign must be started in peacetime, long before the outbreak of actual hostilities. If the campaign has been carried out effectively, many decisive successes will be scored without firing a shot. We all recall how Hitler occupied the Ruhr with no more than a show of teeth by playing on world sympathy for a "poor, divided Germany" and by arousing in British minds the old specter of French domination of the continent. We also remember how logical the Nazis made the "union" with Austria sound with the argument that a tiny, weak independent Austria—incapable of sustaining herself economically—was a senseless anachronism and that all Europe would be better off if she was a part of a German federation. And by 1938 the might of a rearmored Germany was such a nightmare to all the nations of Europe that Czechoslovakia was overrun simply by rattling the saber.

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b. A more recent (and from our point of view, a happier) illustration of the part that strategic psychological warfare played in political warfare is the outcome of the Italian elections in mid-April, 1948. In the early winter of 1948 all signs pointed to the weakness of the DeGasperi government and the strong possibility of a sweeping victory by the Communists in the forthcoming elections. There followed swiftly a series of moves by the western powers designated to strengthen the hand of the DeGasperi government and encourage Italians to stand firm against the encroachments of communism. U. S. naval units moved into the Mediterranean. In the United Nations, Britain and the United States advocated the return of Trieste to Italy and supported Italy's candidacy as a member nation. Hints were dropped that the western powers would favor the eventual return to Italy of the Italian colonies. Radio and press stressed the fact that communism is a foreign-dominated international movement and reminded Italians of Italy's glorious role in the history of western civilization. The Italo-American "Friendship Train" brought to the doorstep of individual Italian families proof that their friends in America were thinking about them. Personal letters and radio messages assured numerous Italians that they were not forgotten by their former compatriots on this side of the Atlantic. The passage of the European recovery plan (ECA) made it certain that Italy would soon begin to receive the economic assistance necessary to regaining her prosperity. The Vatican spearheaded the propaganda campaign to remind Italians that Italy was the cradle of Christianity and laid stress on the anti-Christian nature of communist philosophy. The sum total of these moves offers a splendid example of skillfully executed political warfare and the result was a smashing victory for the anti-communist parties in the April elections. The strategic psychological warfare moves that may be discerned throughout the election and pre-election periods is the use of press and radio campaigns by the western powers both in Italy and throughout the world against the communist international movement (ably spearheaded and abetted by the Vatican), the extensive advertising of the movement of U. S. naval units in that area, the return of Trieste to Italy, the Italo-American Freedom Train, the intensive use of personal letters, radio messages, etc., by Americans of Italian descent and the advertising of the use of ECA which promised economic assistance. All this propaganda from a strategic psychological warfare viewpoint may be recognized for its true worth in assisting and abetting political warfare effort of the western powers.

13. BENEFITS AFTER WAR IS DECLARED. Beyond the successes scored by political warfare without any fighting, clever strategic psychological warfare should achieve additional and spectacular results soon after the start of actual hostilities. This can be done by continuing intensively with a wartime slant propaganda themes which have been persistently and continuously pounded home to the enemy in time of peace. We have a striking example of this in the unexpectedly rapid collapse of France in the summer of 1940. The morale of the French army and civilian popula-

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tion had been so thoroughly eaten away by sustained waves of subtle propaganda that there remained no will to resist. The Nazi planners had carried out ably the instruction given by Hermann Foertsch of the German General Staff in 1935:

"To render an opponent defenseless means to rob him of his will to fight Everything that affects his will and his means to fight must be attacked, not only his military—but his moral, spiritual and economic forces—in short, his entire political power."

The French nation had been convinced that it had been deserted by the British, forgotten by the Americans, and betrayed by its own government. France was a beaten nation before the first German tank crossed the frontiers of the Lowlands. No one believes today that the France of 1940 could have held out indefinitely against the military power of Nazi Germany, but the most competent observers feel that a grim and determined France could have made the occupation of the country a much more prolonged and costly operation than what actually took place.

14. THE ARMY'S ROLE. Strategic psychological warfare is, then, the wartime continuation and application of propaganda which has been started in time of peace. But, our peacetime policy is controlled and directed by the Department of State and the propaganda employed to support it must necessarily be directed by the same agency. In time of war, a large part of the burden of strategic psychological warfare devolves naturally on the Army and Navy. For this reason, it is vital that in time of peace experienced key personnel of the Army and Navy be kept in close and constant contact with the policy-making and operations of our propaganda campaign. Conversely, in time of war it is necessary to have experienced representatives of the Department of State included in the formation of strategic psychological warfare policies. This cooperation with the Department of State in the formation of policies will be given more detailed consideration in Chapter 3, under OPERATIONS.

15. KNOWLEDGE OF AREA ATTACKED. An essential requirement of successful psychological warfare is that it be based on an accurate knowledge and full understanding of the intellectual, emotional and economic trends of the country against which it is directed. Religious prejudices, sociological problems and other factors differ widely from one area of the world to another. An argument or theme which might be highly effective with the population of one country could be completely ineffective (if not actually harmful with another people in another part of the world.

16. MISTAKES IN THE PAST. In the early days of modern psychological warfare frequent mistakes were made which stemmed from a tendency to believe that the emotional and intellectual reactions of all peoples to a given issue were the same: that issues which were very "live" in one country were equally important in another. With experience there

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came the realization that a question which might be of vital interest in one area could be completely unimportant elsewhere. For example, the border dispute between Ecuador and Peru is a "hot" issue in those countries, but it is of no concern at all to the Chinese. To be effective, propaganda to any given nation must be in terms of things which affect its people deeply and not in terms of what is important to people in another part of the world.

17. NEED FOR AREA SPECIALISTS. Thus, successful psychological warfare requires not only specialists in the general science of human behavior, but also area specialists who can give to the generalities a form and expression which will make them appealing to (and not offensive to) the particular social or racial group for which they are intended. Each national, racial and religious group has its particular prejudices and taboos in the light of which a propaganda message must be carefully weighed. Even within a single country there are regional differences and sensibilities which have to be considered. For example, in our own country we might find that an argument on the civil rights question which might be received with approval in Wisconsin would arouse anger and protest in Alabama. The function of an enemy psychological warfare operator would be to exploit and intensify such latent dislikes and hatreds.

18. FLEXIBLE POLICY. Psychological warfare must not have a fixed, stationary policy, but must be highly fluid and flexible, adapted to changing developments and sensitive to national, racial, religious prejudices and differences. It must be prepared to change its "line" in accordance with shifting events in various parts of the world, and at the same time adhere to national policy statements and not be caught in transparent contradictions. This can be done by making statements as general as possible, but not rashly predicting the uncertain future, and by not making specific promises which we may not be able to keep.

19. DON'T COMMIT YOURSELF. One of the cardinal principles of psychological warfare is: "*Always* commit the enemy as widely and as fully as you can. *Never* commit yourself except for a specific purpose and then only when you are absolutely sure you can make good on your commitment." Unfulfilled promises and rash boasts from the enemy camp are bread and meat to the worker in psychological warfare. He pounces eagerly on any such lapse by a political or military leader on the other side and hurls it back by leaflet and radio with intent to convince the rank and file of the enemy that their leaders are not dependable and don't quite know what they are about. It is spectacular psychological warfare to forecast a brilliant achievement and then make it come to pass; it raises the morale of your own forces and depresses that of the enemy. But, if the forecast proves to be only an idle boast and the enemy tosses it back at you with a resounding "Oh, yeah?", the opposite effect is disastrous. Hence, the expert psychological warfare operator tries to commit the enemy as widely

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and as deeply as possible, but he is extremely wary about committing his own side.

20. **DON'T CREATE NEW ISSUES.** Another basic rule of psychological warfare directed at the people of another country is that it should never create new issues and then try to convert the foreign nation to them. It should detect existing issues and concentrate on twisting and exploiting them. A weakness of German propaganda directed to Americans during the last war was its insistence on the anti-Semitic theme. It failed to realize that among Americans anti-Jewish feeling is neither very widespread nor very deep, and thus most of the effort along this "line" was wasted. But the German propaganda machine was on safer ground when it appealed to an actual anti-European prejudice among the Arabs of North Africa. And many an American did some serious thinking about the statement that the Russian ally on whose side he was fighting was actually a greater menace than the German enemy with whom he was exchanging bullets.

21. **IMPORTANCE OF PERSONALITIES.** More often than not it is preferable to direct psychological warfare at personalities rather than at issues. Emotional enthusiasm for (or hatred of) an individual is much easier to arouse than for an abstraction. His (or her) features can be ennobled or caricatured, the shape of the head distorted, some physical defect exaggerated in order to produce the kind of effect desired. We are familiar with the use made by political opponents of Chamberlain's umbrella, Hitler's mustache, Stalin's head. We saw how both Communists and anti-Communists in Italy adopted the likeness of Garibaldi's magnificent face to win votes for their respective causes. People come to love or detest a person much more readily than they do an idea.

22. **OBVIOUS SOURCE.** At the strategic level, it is usually desirable for the source of the propaganda to be evident. Experience has shown that a consistent, straightforward presentation of one's own viewpoints ("white propaganda") is more effective than the use of ruses, tricks and rumors whose origin appears to be different from what it really is ("black propaganda"). "Black propaganda" is highly delicate and risky. It should be practiced only by skilled experts and then only when the objective is of the most vital importance and it seems impossible to attain it by the "white" approach. In rare cases, it is better to have rumors spread by agents and "fifth columnists" in such fashion that they seem to have generated spontaneously within the country under propaganda attack. Your own radio can then pick them up and disseminate them as "news" from the enemy country. (This technique will be elaborated in Chapter 6, under **RADIO PROPAGANDA.**) This technique is extremely dangerous; exposure of your deceit means the loss of the confidence of your audience—and this confidence will be hard to recapture once it is lost. It is always

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safer (and in the vast majority of cases just as effective) to stick to the truth, labelled for what it is and indicating clearly the sources from which it emanates.

23. DISSEMINATION OF PSYCHOLOGICAL WARFARE. *a.* Psychological warfare is conveyed to the enemy by the use of printed matter, films, and by radio. Each of these methods are discussed below:

(1) *Printed Matter.* It is hardly necessary to dwell on the enormous role which the written word has had in influencing the history of human thought. Newspapers, leaflets, handbills, booklets and books have proven in the past to be the backbone of psychological warfare and they will continue to be a primary media despite the increasing and expanding importance of the radio.

(2) *Films.* This medium, with its graphic appeal to the eye, is more and more widely used as one of the most persuasive means of swaying human thinking. In the movie-conscious United States, we have daily evidence of the influence which this medium can exert. And it takes a wide-awake, discriminating and thoughtful mind to distinguish between truth and "hokum" in a motion picture. Following the invasion of Poland, the diabolically clever Nazi Propaganda Ministry arranged for films of those scenes of horror to be distributed as widely as possible in all countries which were to be eventual victims of German aggression. Foreign visitors of all categories were given special showings. We can readily believe that no small amount of the panic and paralysis caused in France by the German invasion in 1940 sprang from a visual memory of what had happened to Poland. For obvious reasons, this medium is of little use against the enemy in time of actual fighting. However, it can be of deadly effectiveness during the years of "cold war" which precede the period of military operations.

(3) *Radio a.* Students of mass psychology have reached the conclusion that the human mind is more affected by what it hears than by what it sees, that the appeal of a reasonable voice is greater than that of the most brilliant artistry or the most eloquent printed matter. German military psychologists made this observation early in the 1920's and subsequent laboratory research has confirmed their deductions. Thus, the radio has become the No. 1 medium for influencing public opinion and its influence will increase as technical improvements better its performance and expand the potential listening audiences. This primary medium is of such importance that the last chapter of this text will be devoted to the subject.

b. Psychological warfare themes may be conveyed forcibly by the three devices discussed below. These devices may be used in any or all of the mediums discussed in the preceding paragraph.

(1) *Slogans.* Single words or brief phrases which have an emotional content and convey to the hearer the suggestion of a whole idea. "Lebensraum" ("Living space") conveyed in a word Germany's expansionist

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dreams. "The Mediterranean, an Italian lake," expressed Italian ambition to recreate the Roman Empire. "Asia for the Asiatics" won for the Japanese many friends in other parts of the Orient.

(2) *Symbols*. Signs or figures which carry to the eye the same effect that slogans do to the ear. These are one of the oldest and most powerful ways of influencing public opinion. We are all familiar with the use made of the swastika by the Germans, of the hammer-and-sickle by the Russians, and the "V" made famous by Winston Churchill. We also recall how reverse use was made by our enemies of caricatures of Uncle Sam ("Uncle Shylock") and grotesque distortions of the face of President Roosevelt.

(3) *Music*. "Music hath charms to soothe the savage breast" and the hypnotic power of a haunting rhythm accompanied by simple, easily-memorized words is enormous. We are all conscious of the emotional appeal of "AMERICA," "THE STAR SPANGLED BANNER" and the "BATTLE HYMN OF THE REPUBLIC." For Nazi Germans "DEUTSCH UBER ALLES" and the "HORST WESSEL SONG" had the same appeal and "GIOVINEZZA" (Youth) helped "sell" fascism to the Italians. Students of United States history recall how JOHN BROWN'S BODY LIES A-MOULDIN' IN THE GRAVE" helped inflame emotions during our own Civil War.

24. **PRINCIPLE OF REPETITION.** A guiding principle of which the psychological warfare operator must never lose sight is repetition, repetition, repetition. A small number of carefully selected simple themes is preferable to a large number of over-subtle or complicated messages. Some appeal to the emotions and others to the reason; of the two classes, the former is more effective with a large number of people. On these themes the propagandist hammers, pounds and insists with every medium at his command. The form is changed frequently, the idea is dressed up in new clothing, but the basic theme remains the same and the intended victim should see it and hear it again, again, and again until he finally comes to accept its truth.

25. **MASS HYPNOSIS.** In conducting psychological warfare against a nation which has been subjected to totalitarian regimentation, it is important to remember always that such a nation does not think along the same lines as does the population of a democratic country. Every inclination toward independent thought has been crushed through systematic training; in its stead there has been substituted automatic response to fixed stimuli. Mass delusions can be induced; if one isolates a people, allows no outside corrective, and pounds away daily with press, radio and films, with fear and pseudo-enthusiasm, any delusion can be instilled into that people and it comes to accept as natural the most primitive acts. Such delusions, so carefully implanted, are difficult to correct. Reasoning no longer has any value, for a mind mesmerized by the lower type of thinking is deaf to

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thought on a higher level. If one tries to reason with a person who has been thus impregnated, he will sooner or later withdraw into his fortress of collective thinking and will hide behind some emotional slogan. The mass delusion which gives him the feeling of greatness and superiority is dearer to him than all personal consciousness. The technique of such ideological regimentation is based on that of hypnosis. There are a few simple slogans. These are repeated, day-in and day-out, in every conceivable form. The radio, the press, posters in the streets, public advertising—all say the same thing. In times of mass emotion, people are especially defenseless against mass suggestion. Such a people is no longer composed of reasoning individuals; it follows the thought pattern in which it has been trained since childhood.

26. NEED FOR SKILLED AND CAREFUL PLANNING. Psychological warfare is one of the most delicate and explosive of weapons and can prove a dangerous boomerang if placed in the hands of inexperienced operators. In normal military operations we are accustomed to thinking in terms of evaluation of the objective, screening of the intelligence, detailed preparation of the operation and the assignment of specialists to each phase of the mission—but there is often found the deluded impression that *anyone* can execute psychological warfare. On the contrary, a psychological warfare "mission" is just as complicated and requires (if it is to succeed) the same amount of calculated preparation, detailed integration and skilled execution. To assign any phase of the task to an unqualified or inexperienced operator is to invite failure of the entire mission. In psychological warfare, the effect of such a failure is even worse than in other operations because a long series of successful missions is necessary to "live down" in the mind of the enemy the amusement or ridicule occasioned by one single mistake.

27. PRESTIGE OF PSYCHOLOGICAL WARFARE. The achievements of psychological warfare during the past war were such that its usefulness and value are much more generally appreciated in this country than they were a decade ago. We observed how close Josef Goebbels came to persuading the world of the myth of Nazi invincibility and the hopelessness of our trying to overtake the Germans in the race for supremacy in the air. Our own successful efforts in this field awakened our people to the immense possibilities of clever and skillfully executed propaganda.

28. ACTUAL EXTENT OF PSYCHOLOGICAL WARFARE'S CONTRIBUTION. We can admit that propaganda, efficiently applied long in advance of an actual state of war and continued through the period of active fighting, is a deadly weapon of total war. But *just how much* can really be claimed for it? To what extent can psychological warfare (joined with economic and diplomatic activities to form the combination we call "political warfare") be expected to supplant or replace armies and navies?

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The answers to the above questions vary widely. Some German experts have gone so far as to state that this weapon is to be considered as supplanting rather than implementing the military machine. This is an obvious exaggeration and is not to be taken seriously. Those enthusiasts who believe that propaganda alone can work miracles are hypnotized by their own words and dazzled by scattered initial successes. Dictators do not underestimate the importance of military, naval and air power, but they count on using psychological warfare to win many political battles before any "shooting war" starts. They know you can't win a war by psychology alone, but they also know that its use before and during wars will make them easier to win. Most American psychological warfare experts (and in this they concur with the British) content themselves with the statement that theirs is a valuable auxiliary weapon and *does* contribute to victory when coordinated with other arms,—when integrated with economic, diplomatic, and military warfare. As to its value in connection with military warfare, they point with pride to the statement of General of the Army Eisenhower:

"In this war, which was total in every sense of the word, we have seen a great many changes in military science. It seems to me that not the least of these was the development of psychological warfare as a specific and effective weapon. Without doubt, psychological warfare has proved its right to a place of honor in our military arsenal."

Chapter 3

OPERATIONS

29. **PEACETIME POLICY CONTROL.** In time of peace propaganda is employed in support of U. S. foreign policy and that policy is the responsibility of the Department of State. Thus, in the board or agency which directs pre-war propaganda, the influence of the Department of State must be predominant. In the said board or agency representatives of the various branches of national defense (Army, Navy, Air Force) are included. These representatives keep the Joint Chiefs of Staff briefed up to date on the changing pattern of our peacetime propaganda and present to the cooperative board or agency appropriate views on items which affect the functions or responsibilities of the armed services. In this way, trained and experienced representatives of the armed services are fully cognizant of the background of our propaganda campaign and are able to advise the Joint Chiefs of Staff in making plans for the day when the armed services will become the operational agencies for psychological warfare, i. e., with the outbreak of hostilities.

30. **CHANGES NECESSARY IN TIME OF WAR.** With the advent of war, the cooperative board will continue to be the source of high-level poli-

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cy decisions about psychological warfare, but the role of the representatives of the armed services will become much larger and more active than in time of peace. They must guard against any political moves which might hamper or embarrass theater or field commanders. For example, it might be brilliant political propaganda to promise the civilian population of a certain area supplies and transport in return for cooperation with our advancing forces; however, if the field commanders are not in a position to furnish these services, the later widespread disillusionment and discontent over failure to keep the promises may outweigh the advantages gained by making them. The representatives of the armed services must keep the Joint Chiefs of Staff constantly informed of the latest trends in political propaganda in order that these may be fused with military psychological warfare directives sent out to theater commanders. The emphases at this level are necessarily quite different from those at theater level.

31. THE ARMY'S RESPONSIBILITIES IN PEACETIME. The Army's participation in the national propaganda campaign in time of peace is largely consultative and advisory. It must, however, make plans and preparations for assuming a more active role with the outbreak of hostilities. Under the direction of the Joint Chiefs of Staff, the General Staff, Department of the Army has the following broad responsibilities for psychological warfare operations:

- a. Providing planning and operational guidance for psychological warfare activities.
 - b. Providing Department of the Army liaison with joint agencies and with non-military agencies of the government.
 - c. Collecting, evaluating and interpreting sociological and psychological information, including an analysis of foreign propaganda affecting the military interests of the United States.
 - d. Providing psychological warfare units and bulk authorization in the organization of appropriate echelons of the Army and inclusion of suitable materials and supplies in logistical planning.
 - e. Providing for army training in psychological warfare and the development of new or improved weapons, instruments and techniques.
- The allocation of functions affecting the above among the various divisions of the General Staff, United States Army, is found in appropriate Department of the Army memoranda. The Director of Plans and Operations, United States Army, has the responsibility for general supervision of army psychological warfare activities.

32. THE THEATERS OF OPERATIONS ARE THE CENTERS OF ACTIVITY. In time of war, the theaters of operations become the centers of strategic psychological warfare activity. Some part of it can originate in

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the Zone of the Interior (ZI) through the medium of short-wave radio. Some "timeless" printed matter can be produced in the ZI and shipped overseas, but the experience of World War II was that such material was usually too stale to be of much value. The great bulk of the printed matter must be prepared and produced in the theaters where there is the closest contact with latest developments. The greatest part of the most effective, standard-wave radio programs must also be prepared overseas. In general, the ZI is too remote from the areas of operations to contribute more than high-level directives on political psychological warfare and the broader aspects of military psychological warfare; these general principles can best be translated into radio scripts and leaflet texts in areas more closely in contact with the changing situations, i. e., in the theaters of operations.

33. PSYCHOLOGICAL WARFARE A FUNCTION OF COMMAND. Responsibility for psychological warfare within a theater rests with the theater commander who must take into consideration the directives under which he operates, the special conditions in his theater and the nature of the military operations he is to conduct. To implement the psychological warfare activity, the theater commander will normally establish a special staff division and will assign to it the functions and duties pertaining to his responsibilities in this field. Since general conditions and the nature of the military operations to be conducted will vary from theater to theater, it is impossible to define precisely the functions and organization of the psychological warfare staff division for any particular theater headquarters. However, the fundamental functions and responsibilities of this staff division will be the same in all theaters and constitute a skeleton which can be modified to establish an organization suitable for any particular situation.

34. FUNCTIONS OF THE PSYCHOLOGICAL WARFARE DIVISION. The basic functions and responsibilities of the Psychological Warfare Division are to:

a. Integrate psychological warfare with proposed theater operations and to execute such operations as may be directed by higher headquarters or requested by lower commands.

b. Coordinate all psychological warfare activities within the theater, relate them to similar activities in other theaters, establish close cooperation with the political advisers to the theater commander and with representatives of any national (or allied) information services which may be operating or planning to operate within the theater.

c. Plan and put into operation the different activities of psychological warfare, i. e.:

(1) Acquisition of necessary intelligence and the interchange of pertinent items with other interested agencies.

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(2) Programming and operation of fixed radio stations which are beamed at enemy or enemy-occupied territory.

(3) Preparation and mass-production of newspapers, periodicals, and "long-range" leaflets and arrangements with the Air Force for desired dissemination on carefully chosen targets.

(4) Establishment of a monitoring service to listen in on our own, allied and enemy broadcasts.

(5) Evaluation of the effectiveness of our own, allied and enemy psychological warfare and the development of new methods, techniques and devices to make our own work more effective.

(6) Preparation of requirements in personnel, supplies and equipment and the allocation of same to proper units and teams.

35. OPERATIONAL ACTIVITIES. The principal fields in which the psychological Warfare Division will operate are as follows:

a. Operation in the radio field will always be necessary when coverage of distant areas can be provided from fixed stations which are taken over or set up in the theater. Policy coordination and assignment of missions for such operations must be under direct theater control. Extensive monitoring can also be provided better at the base of operations where technical equipment is available in larger quantities than elsewhere. All these factors make it advisable to have activity in the field of radio centered at theater headquarters.

b. In addition to the "long-range" strategic leaflets which are its special province, the Division will be called on to perform certain services for lower commands. To insure high quality of manufacture and uniformity of size (this last factor is vital when the material is being prepared for packing into leaflet shells or leaflet bombs), the quantity production of standard leaflets needed by tactical units can be effected better on the large static presses available at theater headquarters than on the small mobile presses with which the lower echelons are normally equipped. Accordingly, such leaflets as "fair treatment of prisoners", "safe-conduct passes", etc. which are used by all psychological warfare elements should be manufactured at theater headquarters.

c. Leaflet newspapers intended for enemy troops or civilians require a large editorial and publication staff, particularly when these papers are double-sheet, illustrated, and are to be produced in volume. Their dissemination is generally effected by strategic air units whose bases of operations are within delivery range of theater headquarters. All these requirements are met better as a theater project than when the activity is decentralized to lower units. This does not preclude the publication in special cases of small single or double-page leaflets by teams at army group, army or similar headquarters.

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d. "Black" propaganda (see paragraph 22) is a highly delicate operation and must be carefully coordinated with secret intelligence. If it is not closely controlled, it may produce adverse or even dangerous results. Accordingly, such operations are best conducted from theater headquarters.

e. The intelligence requirements for psychological warfare go beyond the scope of ordinary military intelligence. Matters like the food situation on the enemy home front, rumors about scandals in the private lives of enemy political leaders, any sort of social unrest—all of these are part of the fabric of psychological warfare. When the usual intelligence agencies are asked to provide the ramified information needed for this work, the burden placed on these agencies is unduly heavy and distracts them from their specific duties. Insofar as the intelligence needs of psychological warfare can be met through normal army channels without placing on them an additional heavy burden, this method should be used. Usually, however, Psychological Warfare Division will have to provide its own channels for supplementary information.

36. ORGANIZATION OF THE DIVISION. Condition in a particular theater of operations will determine the organization of a psychological warfare division for that theater; it is impossible to define it in detail. In general, it can be said that the organization should be based on the duties of the said Division in that theater and should be functional in nature, i. e., groups and sub-divisions thereof should be established to perform duties incident to each of the operations indicated in paragraph 33. Figure 3 diagrams an organization which can easily be modified to adapt it to the special circumstances in any theater. When the headquarters is joint or combined (and it is probable that this will be true in many cases in future war), the Division will contain personnel from each of the services or allies represented in accordance with the type of staff which is established. The assignment of functions to the various sub-divisions of the Division are discussed in the following paragraphs:

a. *Plans and Policy Group.* As the same implies, this group is charged with the staff work to cover sections a, b, and c (5) of the responsibilities of the Psychological Warfare Division discussed in paragraph 34. It furnishes the necessary guidance for the Intelligence and Operations Groups, keeps their work in line with present and future operations in the theater, and sees to it that the work of the Division is coordinated within its own elements, with other kindred agencies operating in the theater, with political advisers and news agencies, and with the work being done in other theaters and in the ZI.

b. *Liaison Group.* The normal coordination between the Psychological Warfare Division and other divisions of the theater headquarters staff is conducted in routine manner, i. e., members of the Plans and Policy Group coordinate with G-3, members of the Intelligence Group with G-2,

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etc. However, the very nature of psychological warfare makes the work so complex and the necessary relations with other agencies, service, etc., so ramified, that liaison is of the utmost importance. Furthermore, it is normally desirable to have division representatives make regular visits to subordinate commands to effect the necessary coordination and exercise such supervision as may be authorized. The Liaison Group may be a special section of the Division or it may be a part of the Plans and Policy Group. Either system is satisfactory and the choice will be determined by the composition of the theater headquarters and the nature and extent of the liaison tasks to be performed. It is always preferable that the officer (or officers) doing liaison work with a particular service have a reasonable competence in that service as well as in psychological warfare. For example, the officers doing liaison work with the Air Force should know enough about capabilities of the different type of aircraft, about the location and operations of the different air units in the theater to forestall any requests for air distribution which might be unreasonable or impossible of accomplishment. In like manner, the officers doing liaison work with the artillery should understand the problems and difficulties of those units to be able to advise the Plans and Operations Group accordingly; in short, they should be able to "talk the language" of the artillery service. Only the most general statements can be made about the organization of the Liaison Group. The particular conditions within the theater, the kinds of forces involved and the nature of the operations will govern the kinds of liaison to be performed, and these requirements will in turn govern the size and composition of the Liaison Group in the Psychological Warfare Division.

c. Intelligence Group. This group is responsible for gathering the intelligence necessary for psychological warfare purposes and for the processing and dissemination of such intelligence. Its work separates naturally into three stages:

- (1) Collection of materials.
- (2) Interpretation and evaluation of those materials.
- (3) Reports and records.

Appropriate sub-groups should be created to cover those functions. Their respective duties are as follows:

(1) *Collection Unit.* Acting on advice from the Plans and Policy Group on the basis of directives and requests from other headquarters, this unit will formulate the intelligence needs for psychological warfare needs in the theater. The required information will be obtained insofar as possible through normal military intelligence sources. To the extent that the required intelligence *cannot* be obtained through the usual sources, this unit will conduct interrogations of Prisoners of War (POW's) interviews, document research, etc. To this end, the personnel of this section must be in closest contact with the various G-2 divisions so as to know of the whereabouts of the enemy or other persons or materials which might re-

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veal information useful in psychological warfare operations. The collection unit will also conduct surveys, polls, etc., to determine the effectiveness of our own, allied and enemy psychological warfare.

(2) *Analysis Unit.* This unit will take the information gathered by the collection unit, correlate same with information forthcoming from other sources and prepare the net result in a form suitable for use in psychological warfare. Its analysis should point toward two main objectives:

(a) An indication of the strong and weak points of the enemy's current morale, an evaluation of the effectiveness of our propaganda against him in the past and a prediction of how we can best attack him psychologically in the future.

(b) A study of the effect on our own forces of enemy psychological warfare with recommendations for advisable counter-propaganda measures.

(3) *Report Unit.* This unit puts into proper form and gives appropriate distribution to the reports compiled by the collection and analysis units. It also maintains up-to-date the files and records of the Intelligence Group so that the information contained therein can be made readily available to properly authorized agencies.

d. *Operations Group.* This group is the pulsating heart of the entire Division and it is on the efficiency and ability of the members of this group that the success of the Division's work hinges. It is subdivided into units of which each is charged with one or more of the media of psychological warfare employed in the theater. When there is need in the theater for any sort of specialized or technical training, the training unit organized to take care of this work will fall in the Operations Group. Coordinations of activities within the group is effected by the group chief and the heads of the various units. Specific duties of various units are as follows:

(1) *Radio Unit.* Under guidance of the Plans and Policy Group and on the basis of information furnished by the Intelligence Group, this unit prepares the scripts of programs and supervises broadcasting from all the fixed radio stations in the theater. Its technicians arrange for the installation of new stations and for the repair, activities and maintenance of captured stations. It coordinates the radio work being done by the mobile radio units attached to lower commands and transmits over the fixed stations such tactical scripts as may be requested by lower commands and approved by the Plans and Policy Group. It formulates the requirements in radio personnel and equipment for all radio activities in the theater and allocates frequencies, personnel and equipment to the various stations and mobile units. It establishes and maintains a general monitoring service of the activities of all enemy, neutral, and friendly radio stations within the range of reception.

(2) *Leaflet Unit.* With the possible exception of the radio and its powerful appeal to the ear, printed matter and its appeal to the eye consti-

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tutes the most widespread (and consequently the most effective) medium of psychological warfare. Under the guidance of the Plans and Policy Group and on the basis of information furnished by the Intelligence Group, the Leaflet Unit prepares the strategic (or "long-range") leaflets designed to attack the enemy's morale in support of theater operations or national propaganda policy. This unit also produces the regular newspapers which are distributed on fixed schedules to enemy battle-front and home-front and which bring to the enemy's attention news that his own leaders would be likely to conceal from him or misinterpret to him. The unit receives from the ZI booklets, pamphlets, illustrated folders, etc., and in consultation with the Plans and Policy and Intelligence Groups decides on the proper distribution of this material. In some cases, this unit uses its technicians and facilities to execute for lower echelons tactical leaflets for the production of which the subordinate units do not have adequate facilities. Through the air liaison officer(s) and in consultation with the Plans and Policy and Intelligence Groups, the unit arranges for aircraft dissemination of the printed material over selected targets and in desired quantities. Needless to say, the unit keeps under constant scrutiny the reports of the analysis unit on enemy leaflet activity and its effect on our troops.

(3) *Training Unit.* Such a unit will be established if needed. It will supervise special training of psychological warfare personnel and will prepare and supervise orientation in psychological warfare to be given to military units coming into the theater. It will also arrange for suitable military orientation of civilian specialists who may be brought into the operation. It will also make recommendations concerning the basic training in psychological warfare which should be provided in training programs in the ZI.

e. *Administrative Group.* This group performs the normal administrative functions of the executive element in any staff division. It may have many other tasks, depending on the nature of the situation, e. g., whether the headquarters is combined or purely American; whether civilian personnel and supplies are employed by the Psychological Warfare Division; whether the theater is located in enemy, liberated-friendly, or allied territory; whether the various elements of the headquarters are close together or are widely scattered, etc. Under the most complicated circumstances, the division may be called on to perform clerical, communications, supply, personnel and transportation functions. Under the most favorable circumstances, the duties will be limited to office administration, with the remainder of the tasks being performed by other agencies of the headquarters. The sub-divisions listed below are those which may be needed under more unfavorable circumstances:

(1) *Executive Unit.* This unit plans the physical arrangement of the Division, establishes routines and procedures, maintains the Division's records and reproduces reports, communications and staff studies. It provides for the security of the Division, supervises the message center, re-

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ceives and routes visitors and supervises the movement of the Division when the headquarters is moved.

(2) *Communications Unit.* This unit operates the Division message center. It also procures and allocates communications facilities for psychological warfare purposes, i. e., the transmission of directives, information and intelligence between the Division and neighboring higher and lower commands.

(3) *Personnel Unit.* This unit prepares the personnel requirements, arranges for the acquisition, transfer, promotion, reclassification and separation of personnel; to this end it maintains records on personnel not maintained by other agencies of the headquarters, especially those concerning civilian and allied personnel.

Chapter 4

LEAFLETS AND NEWSPAPERS

37. **PROVISION OF PRINTING FACILITIES.** Since printed and pictorial matter constitute one of the two most effective media of psychological warfare, a large proportion of the Division's energy goes into its production. When the Division is activated, one of the first steps to be taken by the Operations Group is to insure the availability of mass-production printing facilities. As headquarters will normally be in a large city where full-size newspapers were printed in time of peace, it can be presumed that suitable presses are already in existence. If the headquarters is located in Allied territory, proper contracts will be made with newspaper or publishing firms to place the needed facilities at the disposition of the Leaflet Unit. If the headquarters is located in captured enemy territory, these facilities will be requisitioned. The printing technicians of the Leaflet Unit will survey the local situation and make recommendations as to which of the existing printing installations are best suited to the needs of the Leaflet Unit. The question of inks, paper stocks and other materials which go into the printing operation is one for technical experts and need not be considered here.

38. **IMPORTANCE OF THE APPEARANCE OF PRINTED MATTER.** Only those experienced in the publishing business are fully aware of the stress which must be laid on the form, make-up and general appearance of printed matter. In the early days of our psychological warfare activity in North Africa, the available printing facilities were poor, the paper stocks limited and of low quality, and the inks and other supplies insufficient. The consequence of these conditions was leaflets whose appearance was not very attractive. Intelligence revealed that the Germans received these leaflets with a mixture of pity and contempt. Germany, the birthplace of

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the printing press, had a tradition for good typography and fine craftsmanship which had become almost instinctive with all Germans and had penetrated down to the lowest levels of the population. When they received one of our poorly-executed efforts, their automatic reaction was that such an inferior piece of composition could not contain ideas of any great value. Although this feeling is especially strong with Germans, the same rule holds true to an extent with all recipients of leaflets. An excellent and telling script, conforming to policy and based on a shrewd evaluation of what will strike the mind of the enemy most forcibly, is only the first step in the process. If the leaflet is to have the desired effect, it must be appropriately illustrated by competent artists, set up in attractive form by skilled lay-out technicians, and prepared for the press by experienced typographers. Failure to meet the mechanical requirements can nullify a great part of the effort expended in arriving at the idea and the text.

39. PERSISTENT REITERATION OF THE SAME THEMES. For the writer of leaflets at the strategic level, the essential principle is repetition. (See paragraph 24). With tactical leaflets, there is constantly a new situation to be exploited—either as it happens or as quickly as possible thereafter—for the tactical situation may change suddenly and a message which would have been potent on Wednesday becomes useless (or even damaging) on Thursday. But in the strategic field only a major realignment of forces or a large-scale military or political upheaval causes a change in the propaganda “line”. By way of illustration let us examine our strategic psychological warfare in Italy during World War II. This can be broken down into three stages:

a. From the start of the war up to the invasion of the Italian mainland in September, 1943, our messages to the Italians were variations of the theme that we had no quarrel with the Italian people, that there was every reason why they should be our friends, that it was only the misguided ambition of Mussolini and his foolish alliance with Nazi Germany which made them the object of our attack.

b. With the fall of the Mussolini regime and the formation of the Badoglio government, our psychological warfare urged Italians to bring pressure on this government to sign a truce with the Allies and take Italy out of the war.

c. After the truce had been signed, our messages began to urge the Italians of northern Italy to support their government, to sabotage the barbaric German who continued to hold a part of Italy at the cannon's mouth, and asked why more Italian blood should be spilled to salvage what was left of Hitler's fading hope of world domination. Thus, there were only three basic stages in our strategic psychological warfare campaign against Italy during the entire war.

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40. SAME BASIC THEMES IN CONSTANTLY CHANGING FORM.

The basic themes must appear again and again in changed forms of presentation, must be frequently arrayed in new clothing. Each day's news, speeches by political leaders, parallels drawn from history,—in short, everything in the range of imagination of the script-writer will be a new trelis on which to drape the unchanging vine of the basic theme. When the same thought is suggested over and over again in a variety of new modes of expression it eventually comes to be accepted as fact. Figures 4 to 19 reproduces a few of the innumerable leaflets which carried to the Italians the underlying ideas of the three phases of our psychological warfare campaign against them. By pictures and printed words these themes were hammered into Italian minds—week after week and month after month—by millions of bits of paper which fluttered from the skies in every part of Italy. It was only after the Allies had occupied a good part of Italy that we were able to measure the extent to which this incessant drumfire of psychological warfare had crystallized in the minds of Italians these ideas toward which they were already vaguely predisposed.

41. EXPLOIT EXISTING ISSUES. It cannot be repeated too often that it is usually a mistake to try to create new issues, (see paragraph 20). The skilled operator very rarely attempts to make a new fissure in the armor of the enemy's morale; he selects with care weaknesses which already exist and insists upon them with artful suggestion and reminder. There are always some ideas which certain individuals or certain nations fear, detest, and avoid; the psychological warfare expert plays upon these like a skilled pianist, covering the basic theme with varied overtones but never leaving the basic theme altogether.

42. "TIMED" MISSIONS. There are occasions when the strategic psychological warfare service is assigned a "timed" mission to cover a momentary situation, but it is a situation which affects an entire theater or even more than one theater. By a very precise interpretation, one could insist that such a situation is "tactical" because it is momentary. This quibbling over terms is pedantic; the situation is also "strategic" in extent because it affects the operations of an entire theater or is of inter-theater concern. There follows an illustration of such a situation:

a. In January, 1944, it was discovered that the Germans were operating in Florence and Rome two elaborate training schools for Italian spies. These spies then infiltrated Allied lines and caused an immense amount of damage both in actual sabotage and in information carried back to the enemy. Names and details were secured from captured spies; Psychological warfare was instructed to "plaster" the areas in which these schools were located with leaflets showing our full information about the operations of these schools, and threatening with future retribution those "blacklisted" Italians who continued to do this work for the Germans. In-

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formation secured after our occupation of the Rome-Florence area proved conclusively that this series of leaflets had caused widespread consternation and demoralization among the Italian clientele of the spy schools. The potential spies fled and hid in the country despite energetic efforts by the German dictators to prevent them from doing so. (This was proved by German documents captured later.) The work of the schools disintegrated. Figures 20 and 21 are the obverse and reverse of one of these leaflets. Figures 20a and 21a are the translations of Figures 20 and 21 respectively.

43. PSYCHOLOGICAL WARFARE MUST BE "TAILORED" TO FIT THE CLIENT. In paragraph 39 you were given an analysis of our campaign of strategic psychological warfare against the Italians in World War II. It cannot be restated too often that a pattern of psychological warfare which works successfully against one nation will not necessarily have any effect on another. In fact, an approach which is highly successful in one part of the world may be worthless (or even actually harmful) in another. Two illustrations follow:

a. In the campaign against the Japanese, psychological warfare teams had to avoid ridiculing the person of the Emperor of Japan; he was considered as a divinity by the masses of the people, and attempts to belittle him could only increase the hatred and contempt for the "barbaric" westerners on the part of the Japanese. In the same way, it was taboo to urge the Japanese to "surrender" because this notion carried with it the concept of disgrace and "loss of face" and a Japanese who surrendered could never hope to return home and be accepted by family and friends; the code of *bushido* demanded that he die rather than surrender. But he could "cease resistance with honor," the capture was something beyond and outside his own will; there was no disgrace involved—and the result was the same as far as we were concerned.

b. During the summer of 1945, an intensive effort was made to get the Chinese elements in North China who were fighting with the Japanese to turn against the invaders and to join their fellow-Chinese in sabotage and guerilla warfare. Many leaflet appeals were made to them on a patriotic basis, citing the careers of national heroes and urging the "puppet" troops to emulate the high courage and loyalty to homeland of their forefathers. Figures 22 and 22a give a leaflet in Chinese based on KUAN TI and the English translation of the message respectively.

c. Thus the psychological warfare campaign against any given population *must* be carried out by people permeated with the history, culture and reactional patterns of the nation under attack, by people who have lived in the foreign country for years and who understand the thinking processes of its nationals.

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44. **VALUE OF ILLUSTRATED LEAFLETS.** The experience of World War II was that the illustrated leaflet usually "carried more punch" than one consisting of text alone. Sometimes a striking picture with a very simple caption was more effective than any quantity of words. The famous drawing of the "boot" of Italy kicking out a Mussolini garbed in Nazi uniform (Figure 6) was one of the most spectacular single items in the psychological warfare campaign against the Italians. When Allied troops arrived in the peninsula, they found copies of this leaflet pasted or tacked on houses, barns—everywhere. The picture told a simple story in a direct fashion which appealed to a peculiarly Italian sense of humor. It is certain that a similar effort directed against a Japanese leader would, under parallel circumstances, have provoked more anger than laughter and would have failed completely to get the desired effect. Figure 23 shows the obverse of a picture leaflet used in connection with stage 3 (see paragraph 39c) of the psychological warfare campaign in Italy. The use of the same picture against the Germans would have been inadvisable at that time, since most of them would not have accepted then the idea of a grotesque "red-handed" Hitler.

45. **LEAFLETS FOR ILLITERATE POPULATIONS.** When dealing with a primitive or illiterate populations, it is necessary to depend almost entirely on the pictorial device to convey the messages. During the Assam (Burma) campaign, energetic efforts were made to enlist the cooperation of the native hill people in the struggle against the Japanese. So few of these people could read that printed messages were valueless; in this operation the artists rather than the writers were the purveyors of psychological warfare. It was also found that these people were highly susceptible to presents, even of the simplest kind. So, small packages containing needles-and-thread, salt, vegetable seed, etc., were scattered by plane over the villages in the path of the projected Allied advance. These packages were marked so as to indicate the source of origin: red-white-and-blue, American flags, markings of the Air Force, etc. The seed packages turned out to have additional significance at a later date. Combat officers reported that when these areas were occupied by American troops they found the natives tending plots of vegetables which had grown from seeds dropped by American planes. In order to insure the necessary native labor and keep the population contented, the Allied forces had to do something about the famine conditions in the region; these almost mature vegetables reduced the size of the burden on Allied Military Government.

46. **"WAR AIMS" LEAFLETS.** Another use of leaflets made in the last war was to disseminate widely among the populations of enemy and enemy-occupied territories the significant pronouncements of Allied political or military leaders which stated the objectives of the Allies and their plans for the post-war world, decisions of Big Three conferences, etc. These were usually reproductions in print of the scripts which were broadcast over the radio; on one side of the leaflet appeared the actual text of

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the declaration (or excerpts of the most significant passages if the entire text was too long) and on the other side commentary on the salient items in the declaration. For example, the text of the Atlantic Charter was disseminated in millions of leaflets in all languages in all parts of the world which could not be reached by normal news services. Figures 24 and 25 give the obverse and reverse of one of the many leaflets which made the provision of the Atlantic Charter known to the people of German-occupied Italy. Figures 24a and 25a give the translations of the leaflet.

47. CUMULATIVE EFFECT OF PSYCHOLOGICAL WARFARE. Until evidence to the contrary was produced, sceptics argued that a message like the one described in the foregoing paragraph would be dismissed with a shrug by the enemy and would have no effect on his thinking. "More propaganda!". This contention would probably have been true of any one isolated message, if it had not been a part of a long-term, overall psychological warfare campaign. But the effect of psychological warfare is cumulative. As the enemy's situation became more difficult and as he had occasion to see that our pledges and promises in other respects had been fulfilled, repeated statements of our intentions gradually came to have the desired progressive effect on his mind. Our psychological warfare effort had two objectives:

- a. To establish the reliability of promises made by our leaders.
- b. To show the unreliability of promises made to the enemy by his own leaders.

Figures 26 and 27 give the obverse and reverse of a leaflet intended for German troops everywhere and designed to show them that Hitler and his intimates sought safety from bombing in the remote Berchtesgaden retreat, but denied this shelter to refugees from bombed-out metropolitan areas back home. Similar leaflets pointed out to the Germans each instance of broken promises or bad faith of which any Nazi leader was guilty. When this is done over a long period of time, the enemy leaders finally become discredited in the minds of their own people. It should not be forgotten that a clever enemy will make effective use of any careless statements made by our own leaders. The Nazis made excellent capital of a pre-war speech of President Roosevelt in which he made the careless statement that not one American boy would be called upon to shed his blood or lay down his life on foreign soil. They deluged our troops with leaflets showing caricatures of President Roosevelt, the caption "I PROMISE YOU!", and figures (their own, of course) on our recent casualties. The American soldier, who was dodging bullets and wallowing in mud at the time, could not fail to be affected by a series of such reminders.

48. THE BEST PSYCHOLOGICAL WARFARE IS ALWAYS TRUE. A cardinal principle of psychological warfare is that falsehood does not pay. When one is dealing with the same audience over a long period of time, it is vital to establish the reputation for telling the truth always. This is

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known as "building up credibility". It is especially essential when one is dealing with an audience predisposed to want to disbelieve every statement you make. The individual member of your audience cannot check on all your statements; in fact, he personally can check on very few of them. It is highly important that he discover over a period of time that all things you told him on which he *could* check turned out to be absolutely accurate. After a while he comes to believe you in spite of himself, to read with interest everything you have to say, *and to accept as equally true those things on which he cannot check*. One untruth, misstatement, or foolish assertion can destroy the patient work of weeks or months; it can also furnish the enemy counterpropagandist with valuable ammunition with which to wreck your "reputation for credibility" with his own people.

49. PSYCHOLOGICAL WARFARE WITHIN THE BOUNDS OF TRUTH. The good psychological warfare operator tells the truth consistently. But there is a tremendous field for his work within the framework of the truth. The skill lies in three things:

- a. What truths are told.
- b. How much of the truth is told.
- c. What coloring is given to the truth presented.

People often ask: "Is it true or is it just propaganda?" This question is not pertinent. The question to ask is: "Why did the source elect to print (or put on the air) that particular piece of news and give it that particular emphasis?" Those who *collect* the facts also *select* the items which they pass on to their audience: what is the motive or bias behind this selection? Unless some other motive is obvious, it can be presumed that the selection was designed to affect the minds or emotions of a given group of people for a given purpose. Naturally, the selection of facts to be presented—and the manner in which they will be presented—must be carried out by specialists who are thoroughly familiar with the emotional reactions and thinking processes of the audience for which the messages are intended. a specialist who might be very effective for the Chinese might be of no value at all in psychological warfare directed to the Arabs of the Middle East.

50. IMPORTANCE OF NEWSPAPERS IN PSYCHOLOGICAL WARFARE. For the reasons stated in paragraphs 48 and 49, newspapers addressed to the populations of enemy and enemy-occupied territory are one of the most important vehicles of printed propaganda. A dispassionate and apparently impartial presentation of the facts is in most instances more convincing (for week-in, week-out consumption) than emotional tirades or denunciations of the evil intentions of the enemy's leaders. These "vest-pocket" airborne newspapers are of immense value in any area. They are of special value in areas which are without other news sources, or in those where the population has ceased to believe the statements of the official sources of news.

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51. **PSYCHOLOGICAL WARFARE NEWSPAPERS IN CHINA.** The vast hinterland of China was "sealed off" by the Japanese from contact with the outside world for a period of eight years; most of the Chinese looked with suspicion on the news given them by the Japs. At war's end we found that the people of these areas had devoured hungrily the contents of newsheets dropped to them by American planes, scanty as these drops were. Because of the immense areas to be covered and the limited resources available, it was impossible to achieve the volume and regularity of coverage so important in newspaper operations. Despite these handicaps, our psychological warfare service kept a trickle of news flowing to a news-starved population. Figures 28 and 29 give the obverse of two copies of the weekly news-leaflet air-dropped to Japanese-occupied areas of China during the summer of 1945. Figures 28a and 29a give the translations.

52. **PSYCHOLOGICAL WARFARE NEWSPAPERS IN EUROPE.** In France, Yugoslavia, and other German-occupied areas of Europe, airborne newspapers could be and were delivered on regular schedules and in sufficient volume to reach a large percentage of the public. The news contained in these pages was a powerful factor in giving encouragement to and keeping alive hope in underground allies. Without it, they might have been reduced to inactivity by the conditions of suppression and discouragement under which they lived and worked. Nor was the territory of Germany itself neglected. Vast masses of newspapers were air-dropped on regular schedules over all the chief German cities. While it cannot be claimed that they were believed with the same readiness that they were in other European countries, post-war information proved that they were widely read and their contents compared with that of German newspapers. Their very presence probably forced the German News Agency to print news items which it would otherwise have doubtless withheld from the German public.

53. **NEWSPAPERS FOR TROOPS IN BATTLE AREAS.** Enemy troops in the battle zones, cut off from most sources of news, are vulnerable targets for the "newspaper weapon". Because of the more elaborate facilities for production and distribution, it is usually better to have these produced by the "strategic" team at theater headquarters. But this activity should be carried out in closest cooperation with the tactical teams. The editors who prepare these newspapers should spend frequent periods of time with the tactical units. They should engage in frequent interrogations of freshly-captured prisoners. In short, they should take every step to keep abreast of the current thinking of the enemy troops on the front for which this particular newspaper is intended. The selection and emphasis on news items for battle-front troops is a problem quite different from that of editing for home-front civilian population or for dissident elements in territory overrun by the enemy. Figures 30 and 30a show the obverse and translation of the weekly newsheet dropped on German troops in the closing weeks of 1943.

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54. **RECEPTION OF NEWSPAPERS BY GERMAN TROOPS.** German troops in both Italy and northern Europe found the attractively prepared Allied newspapers more stimulating than the stiff, cold communiques of the German Army. In the closing years of the war, as the Nazi position deteriorated, we stepped up the tempo of our "newspaper attack". Larger and more elaborate sheets were prepared and distributed on twice-a-week and thrice-a-week schedules. Reliable information from behind the German lines indicated that they sensed that Allied newspapers were giving them more reliable information than their own news sources. Interrogation of prisoners brought out some amusing sidelights on the interest taken by German soldiers in our printed material. Many prisoners complained of irregularities of delivery: a whole week had passed without a newspaper (this was because of bad flying weather which had kept our planes on the ground): an issue of March 19th had been received before the issue of March 15th (due to a confusion in loading at the airfield), etc. Other prisoners offered suggestions for a more efficient delivery: make the delivery at dawn when the soldiers were up but most of the officers were still asleep, so that the soldiers could pick up, read and conceal the papers with less danger of being caught by their officers: try to make the drops in flat, open country so that enemy soldiers could get them easily, etc. One prisoner complained that Allied artillerymen had fused some leaflet shells poorly, they had buried themselves in the mud, and he and his companions had to dig them out and open them to "get the latest news".

55. **DESIRABLE IN NEWSPAPER WORK.** In psychological warfare newspaper work, one should try to attain the three following objectives:

a. It should appear regularly. Newspaper-reading is a habit and a single issue will not have any appreciable effect. But, once one has gotten accustomed to the make-up and presentation of a given paper, one feels slightly "lost" when one has to change over to another.

b. It should be delivered on schedule. If one is in the habit of reading a certain publication (daily, weekly, monthly) on a fixed schedule, one has a feeling of irritation when that schedule is interrupted by snow-storms, train strike, or other acts of God.

c. It should be produced in sufficient quantities to insure full coverage. Mass effect is the object. The greater the number of people reached, the greater will be the impact of the effort. It is important that there be sufficient volume to reach the entire potential audience.

56. **DANGER OF BOOMERANGS IN PSYCHOLOGICAL WARFARE.** Extreme caution must be exercised in the composition of all leaflet messages and news items; each one must be examined carefully from all angles with possible future repercussions in mind. A particular item might be highly successful in a given place at a given moment, yet its use would be inadvisable if it could rebound later with harmful results which would out-

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weigh the momentary advantage gained. A psychological warfare operator who becomes so intent on his immediate target that he loses sight of the broader implications of his messages is a menace; he should be given little freedom of action. For example, bomb warnings intended to depress the morale of enemy populations may arouse sentimental indignation in certain circles back home. They may also be used by the enemy to show neutrals the cold-blooded, "uncivilized" nature of your warmaking or to whip his own people into a white-hot fighting frenzy. There are always many perfectly true facts which would make excellent psychological warfare in one area, but which could be picked up and used with such telling effect against you elsewhere that it is much better to let them go unmentioned.

57. **EXPERIENCE THE ONLY SURE GUIDE.** All possibilities must be considered before a new leaflet theme or "news line" is launched. No hard and fast set of rules can be laid down to govern wise decisions in matters of this sort. Wide experience, resulting in an almost automatic sensitiveness to all possible facets of a new propaganda theme, is the only sure guide. In general, it can be said that a new psychological warfare approach should never be launched on the impulse of one individual. The proposed theme should be subjected to the scrutiny of the widest possible variety of area experts and all possible repercussions (present and future) analyzed. The decision to launch the new theme should be made after all the advantages have been weighed against the disadvantages.

Chapter 5

DISSEMINATION

58. **STRESS MUST BE LAID ON DISSEMINATION.** The vital final link in the chain of steps which takes our psychological warfare material to its target is the dissemination of our printed matter. The time, effort and expense which go into the planning and production of our literature will have been wasted unless the leaflets and newspapers get into the hands of those for whom they were intended. Too much emphasis cannot be laid on the importance of dissemination, because there is a natural tendency to underscore policy and planning, to provide adequately for preparation and production of texts, to subconsciously take for granted that the job is completed when the finished leaflet or newspaper comes off the press. If the chain is broken there, the operation will have failed. The problems of dissemination, both mechanical and personal, are just as delicate and just as complicated as in other phases of the operation and require the attention of skilled and talented personnel. Intelligently organized and efficiently operated dissemination needs the same emphasis as the other steps in the process.

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59. LONG-RANGE BOMBER IS PRIMARY DISSEMINATION MEDIUM. In the foreseeable future, the long-range bomber will continue to be the primary medium for the dissemination of strategic psychological warfare printed matter. There are occasions when it may be desired to deliver this material to enemy front-line troops and for this purpose artillery leaflet shells may be used. However, in most instances the targets will be areas far behind the front lines and aircraft are the only means of getting the material to them. The organization of the Air Force's part of the operation and its smooth investigation into the overall operation is essential. The successful execution of this part of the enterprise will depend in large measure on the skill, tact and ingenuity of the psychological warfare's corps air liaison officers. The first step is to arrange for the official cooperation of the theater air force headquarters, have appropriate directives issued by it, and establish particularly close liaison with A-3. Most of the actual operational arrangements will be made with lower headquarters, but it is imperative that theater air force headquarters be generally familiar with these negotiations and give covering authorization for their execution.

60. SPECIAL "FLYING NEWSBOY" AIR UNITS The experience of World War II showed that it is better to have special air force units designated as "Flying Newsboys" and devote their entire time to leaflet and newspaper dissemination. There are very special problems in leaflet delivery which require the attention of specialists. A unit which knows that its sole function will be leaflet dissemination can be indoctrinated to take great pride in its work and will develop an *esprit de corps* which cannot be obtained when leaflet missions are sporadic and secondary to the primary job of dropping bombs. When special air force units are specifically designated as leaflet-delivery groups, the problem of air liaison with psychological warfare is greatly simplified. The psychological warfare air liaison officer should visit the unit regularly (and even live there for extended periods of time) and see to it that all personnel of the unit understands the significance of psychological warfare and the importance of the work the air unit is doing. He should, however, confine his activities to those of adviser, leave the actual execution of the operations to the staff of the air force unit and avoid every appearance of "telling" them how to do their jobs. His task is a very delicate one and requires both personality and diplomacy.

61. INCIDENTAL LEAFLET MISSIONS BY BOMB-DROPPING AIR UNITS. It is frequently desirable, in large-scale operations, to have a large number of air force units participate in the dissemination and include a percentage of leaflet bombs with their "pay load" of explosives. In such instances, the burden on the psychological warfare corps of air liaison officers is much heavier and more intricate. Much of the detail which would be "taken in stride" by the staff of a unit regularly employed in leaflet dissemination will have to be planned carefully by the air liaison

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officers. If it is a special operation, a special directive (if a continuing operation, a continuing directive) must be sent by theater air force headquarters to the particular air force involved. The Air Force then selects the units which will participate and passes instructions down the line. To avoid misunderstandings and failures in the chain of command, the psychological warfare air liaison officers should arrange to receive copies of directives (or instructions) at each step in the process.

62. INDOCTRINATION OF THE LEAFLET-DROPPING AIR UNITS.

No air unit should be brought into the leaflet dissemination picture until all staff and flying personnel have been thoroughly briefed on the significance of psychological warfare in general and of the importance of the upcoming mission in particular. If time and circumstances permit; briefings should be extended to the ground force personnel of the air unit, also. Within the limits of security, the background of each psychological warfare operation should be explained to them as well as its place in the overall picture. Since the psychological warfare air liaison officers will be the ones best qualified, they will ordinarily be called on to take charge of the indoctrination. Lectures and open forums should be supplemented with posters and booklets. Ample supplies of samples of each leaflet (with English translations) should be made available to the personnel of Air Force units engaged in leaflet dissemination. Americans are inveterate collectors of souvenirs and many airmen like to take collections of all leaflets dropped by their units. The experience of World War II showed that cooperation is much more enthusiastic and the smoothness of the mission is greatly increased when the above conditions are met. The technique of correct leaflet-dropping is just as complicated as the correct dropping of explosive bombs; if either missile fails to hit its target the mission cannot be considered a success. It has been proven that leaflet missions are really successful only when the personnel of the disseminating air unit has an intelligent grasp on the significance and importance of the mission it is performing. The time and effort spent in educating the personnel of the air force units in the contributions which are made by psychological warfare will pay large dividends in interested cooperation and improved performance. Like all human beings, the airmen are always anxious to know whether the work they are doing and have done is getting any results; it is highly advisable to prepare and distribute through all units engaged in leaflet-dropping a regular bulletin containing miscellaneous information on psychological warfare activities. This bulletin should be lively and readable, brightened by illustrations, cartoons, etc. It should contain comments of field commanders, enemy reaction as evidenced by radio answers or revealed by interrogation of prisoners, etc. Such bulletins provoke lively discussion in the air units and heighten their interest in psychological warfare activity.

63. IMPORTANCE OF EFFICIENT AIR LIASON. The air liaison officer is the key to successful leaflet delivery operations. As has been stated

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(paragraphs 57 and 58), the extent of his duties will vary in accordance with whether the unit is engaged exclusively in leaflet-drop operations or is employed only occasionally for leaflet missions. In addition to his responsibility for indoctrination (see paragraph 62), the air liaison officer must be a "trouble shooter" and spare the air unit irritation over things which do not fall in its normal functions. In general, he must:

a. Set up with his parent organization a system which will insure efficient and smooth delivery to the air unit of properly packaged printed matter. Storage at the air unit, handling from warehouse to planes, the mechanics of the missions themselves are properly Air Force functions and should be handled by the personnel of the air unit.

b. See that air force headquarters understands precisely what is desired of psychological warfare on any particular mission so that suitable instructions will be issued and interlocking services smoothly meshed. It is important that instructions from the higher headquarters be detailed, clear and complete if confusion and complaint at the lower unit are to be avoided.

c. Be present at the air unit during briefing for each special mission to answer any questions which may arise concerning psychological warfare's interests in the mission.

When the air unit specializes in leaflet dissemination, much of this detailed liaison can be eliminated. When the unit takes part in leaflet missions only occasionally, very detailed liaison is required if the mission is to succeed in its purpose.

64. **LEAFLET PACKAGES VS TIME-FUSED BOMBS.** In the early days of World War II, psychological warfare leaflets were hand-dropped from the aircraft in packages. In addition to other objections to the package system, it was found that when free-flying leaflets are dropped from high altitudes they are carried so far by the wind before they reach the ground that any kind of accurate dissemination is impossible. And most strategic material disseminated by heavy and medium bombers was dropped from high altitudes over defended targets. It became apparent that the only really satisfactory answer was a time-fused leaflet bomb which could be dropped from the bomb-rack with fuse set to explode the bomb and eject the leaflets at a determined low altitude above ground level. With appropriate bombing-tables worked out for this item, the unsatisfactory aspects of leaflet-dropping could be eliminated. The leaflet bombs would be dropped in the same way as explosive bombs and the likelihood of hitting a desired target would be greatly increased.

65. **LEAFLET BOMB T-1.** Various Air Force ordnance agencies attacked the problem and experimented with different devices. The most satisfactory resulting item became known as Bomb, Leaflet, T-1. It is a modification of the M-26 parachute flare case, equipped with an M-111 (or

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M-111A-1 or M-111A-2) clockwork time fuse backed by a charge of cordite. A 3" wooden block in the nose protected the rolls of leaflets against the explosion of the cordite and acted as a piston to drive the leaflet rolls out of the tail of the casing. The M-26 flare case is 50" long and 8" in diameter. When standard size (5"x8") leaflets were packed rolls 7½" in diameter it was found that the space behind the wooden block would hold seven such rolls. They should be wrapped with strips of heavy paper to hold them together until time of explosion. The number of leaflets per roll varies somewhat in accordance with the thickness of the paper, but the average is 10,000-11,000 leaflets. The weight of the loaded bomb is 65 pounds. A complete description of this bomb is found in War Department Technical Bulletin TB9X, dated 18 September 1944. The fuse is set to discharge the leaflets at approximately 1000 feet above and upwind of the target area. Since the leaflets are carried along by the wind after they become free-flying, it is necessary to select a point of burst to windward based on the ground wind velocity at the time. The table in Figure 31 gives the approximate drift of leaflets, assuming 1000 feet to the the height of burst.

66. LEAFLET BOMB T-1 IS NOT IDEAL. Leaflet Bomb T-1 was the most successful of the leaflet bombs evolved during World War II and was widely used in both Mediterranean and European Theaters of Operations. It is far from the perfect answer and its creators were the first to recognize that fact. In creating this item, the primary consideration was the stocks of materials available in quantity in overseas theaters and whether these stocks could be spared by the Air Force for leaflet dissemination without handicapping other air force operations. It is a remarkable instance of ordnance ingenuity in adapting for one purpose an item which had been created for another, but it is not the item which the originators would have selected if they had been creating a leaflet bomb "from scratch". The solid casing is not necessary and represents a waste of metal. Further, the solid casing can damage property and injure people in cases where this is not desired. The tail-ejection presents special problems. A weighted skeleton casing which would disintegrate along its entire length would be preferable. The M-26 casing is not of the size and shape to permit the most economical utilization of the bomb-rack space in current bombing aircraft. Various other objections could be enumerated.

67. OTHER DEVICES. In the closing years of the war, two other modifications of existing items of equipment were developed into leaflet bombs. Leaflet Bomb T-2 is an adaptation of the M-15 Adapter Cluster case. Leaflet Bomb T-3 is a similar adaptation of the larger M-16 Adapter Cluster case. These were field-tested at air force proving grounds and bombing tables were prepared, but the experimental work was completed so close to war's end that the items were never used operationally. They represent an advance over Leaflet Bomb T-1. Air Force ordnance is now developing time-fused leaflet bombs which are specifically designed for this work,

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which will be produced in quantity, and will certainly give more efficient performance than the "emergency" creations of World War II,—adaptations in the preparation of which the basic consideration had to be the kind and stocks of manufactured equipment already on hand.

68. **LOW ALTITUDE OPERATIONS.** There will always be some instances where local conditions make it possible for aircraft to deliver their loads of paper from a low altitude over the target (i. e., areas not defended by anti-aircraft fire or fighter planes). In such cases, it is obviously wasteful in time and cost to make use of leaflet bombs; packages are cheaper to prepare and easier to handle and hand-dropping can be approximately as satisfactory if it is done from an altitude of not over 2000 feet. When free-flying leaflets are dropped from low altitudes, they should be dropped well upwind of intended target. A free-flying leaflet of standard size (5" x 8") falls 1000 feet in 5 minutes. A double sheet (i. e., 4-page leaflet of same dimensions) falls 1000 feet in 3½ minutes. Modification of the table in Figure 31 will give an approximation of how far upwind of target the drop should be made, depending on the altitude of drop and the ground wind velocity of the moment.

69. **LEAFLET SHELL.** There are rare occasions when need exists to deliver strategic psychological warfare leaflets to enemy forward troops. In such instances, artillery-fired leaflet shells offer the best means of accurate delivery. The item used in World War II was a modification of the 105 mm base-ejection smoke shell. The smoke-powder charge was removed and small rolls of leaflets inserted in the empty space. A small explosive charge in the nose is set off at the right instant by the time-fuse and drives the leaflets out of the rear of the shell. The principle is the same as in Leaflet Bomb T-1. Very small quantities of leaflets can be delivered in this way but they can be placed "on the doorstep". Because of the small quantities of material which can be distributed by leaflet shells and because of the nature of the audience which can be reached by them, this mode of distribution is usually employed only by the tactical teams. In such rare instances as this method of distribution is employed by the strategic team, channels set up by the tactical team should be utilized. Proper packing, efficient delivery, and completely clear instructions are just as important in dealing with the artillery units as they are in dealing with the Air Force units.

70. **RESOURCEFULNESS IN MEETING UNEXPECTED SITUATIONS.** a. In dissemination, as in other operations, only general rules and indications can be given. In wartime, local situations arise which have to be solved by the imagination and ingenuity of the local personnel. Much depends on the talents of the liaison officers who are the people in the best position to make a comparative study of the problems of one branch as related to those of another and to enlist the resources of other branches to

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assist psychological warfare. By way of illustration of resourcefulness in solving a unique problem, the following case is offered:

b. At a certain point in the Burma Campaign, the only aircraft available for leaflet dissemination were several P-40 fighters. Gasoline was scarce and the number of leaflets which could be carried in the cockpit of a fighter was small. Further, the pilots objected to having to open the cockpit and throw out leaflets with one hand while controlling the plane with the other. Villages were scattered, the number of inhabitants in each one was small. It was desired to have each plane "tour" a large number of villages every trip, dropping small quantities of leaflets over each one. An engineer unit came to the rescue by adapting a 75-gal. gasoline overload tank into a "leaflet belly tank" which could be shackled under the fuselage of a fighter. The tail of the tank was severed and the opening closed by two flaps which were held shut by two strong springs fastened to the inside of the tank. A track was laid through the length of the tank and on the track loosely-bound packages could be placed end to end. In the nose of the tank there was installed a small electric motor connected with a button on the control panel in the cockpit. This motor operated a piston which forced the line of leaflet packages to the rear and through the spring-controlled flaps. When the loosely-bound package hit the slipstream, it disintegrated. By the length of time he held his finger on the button, the pilot could control the number of leaflet packages to be ejected over any given village in accordance with the reported population. With this device, it became possible to "circularize" ten to fifteen villages in a single flight, with a minimum of risk and inconvenience to the pilot.

Chapter 6

RADIO PROPAGANDA

71. THE RADIO AS A MEDIUM OF PSYCHOLOGICAL WARFARE.

The radio is now accepted as the most effective medium of long-range, strategic psychological warfare, both during the preliminary "cold war" period and during the war itself. This is true not only because the radio can reach a much larger audience and reach it more regularly than can printed matter, but because a skillful appeal to the ear makes a deeper impression on the mind than an equally skillful appeal to the eye. Students of psychology of advertising have long accepted the conclusion that the ear is the most sensitive of all the human organs in terms of its effect on the mind. Investigations by "listening research" departments of the various broadcasting services reveal that the public reacts in a much more personal way to radio programs than it does to articles in newspapers. Under wartime conditions, people in the occupied countries clung to their radio sets with a sort of desperate ingenuity as their only spiritual release from bondage. Prior to the invasion of Normandy, we had figured that most of

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the radio sets there would have been confiscated by the Germans and prepared large stocks for distribution immediately after the arrival of allied troops; this proved an unnecessary measure, as most of the people had access to radio reception. The human voice is an instrument of almost magical power to influence thinking; when it is carefully modulated to fit the emotional level desired and when its appeal is carefully blended with appropriate musical selections, only the "toughest" individualists will not fall under its spell sooner or later.

72. HOW TO INITIATE A SERIES OF PROGRAMS. Psychological warfare by radio is governed by the same basic principles which hold true in other media of propaganda. In the initial stages of a campaign a pleasant, mild and confidential tone is the best way to catch the attention of the listener and develop the habit of listening regularly to the program. If, at this point, the attitude of the radiocaster is too prejudiced or biased, unnecessary irritation and resistance will be developed in the mind of the listening audience. In the beginning, such suggestions as the propagandist wishes to convey must be carefully concealed in a mass of material designed to captivate the listening audience and take it into the speaker's confidence. The famous catch-phrase of the late President Roosevelt's early "Fireside Chats" ("My friends, and I know you are my friends") is a classic example of how to get the sympathetic attention of the audience. Once the audience has consented to listen, the initiative lies in the speaker's hands and he can apply all the principles of suggestion and persuasion, with all the complex modifications made possible by the sensitiveness of the human ear and the magic possibilities of the human voice.

73. RADIO APPEAL IS TO THE EMOTIONS. In radio activity, the emotional tone is more important than logical argument. The reader of printed matter is much more critical of faulty reasoning than is the radio listener. As a rule, people listen badly and many of the impressions received are unconscious rather than conscious. An excellent example of impressions received unconsciously is given by a story which came out of German-occupied Holland. There was a boy in the Hague who was in the habit of listening regularly to broadcasts from London and was so deeply impressed by what he heard that he whistled English dance tunes in the street without realizing he was doing so. He was unconscious of what he was doing, but the German police identified him at once as a listener to foreign broadcasts.

74. UNREASONING NATURE OF RADIO PUBLIC IN TIMES OF STRESS. In times of great public tension, people at large are even more unreasoning than normally about accepting as fact what is presented to them over the radio. The material must be presented skillfully, of course, and have at least a surface appearance of authenticity. As an example, we recall the famous Orson Welles broadcast of an invasion of the earth by the men from Mars in the fall of 1938. This came soon after the Munich

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crisis, when the international political situation was strained and people were hyper-sensitive to any suggestion of an invasion. This very realistic presentation of an impossible event, stage-managed by a master-craftsman in the field of sound effects, produced a panic in some elements of the population in certain parts of the country. Moving vans were piled with furniture and people jammed the highways in a frantic effort to escape from the reported points of invasion. Even less hysterical citizens were shaken by the broadcast and newspaper offices were flooded with telegrams and telephone calls demanding confirmation or denial of the broadcast.

75. **THREE CARDINAL PRINCIPLES.** In psychological warfare by radio, then, it is vital to bear in mind that the:

a. Audience must be won by a warm friendly approach which will disarm the listener's suspicions and make him feel that the broadcaster is his friend and ally.

b. Emotional tone is just as important—if not more important—as the logic of the arguments presented. Voice effects and sonic accompaniments must be selected and molded with this consideration in mind.

c. Unconscious impressions received by the listener are as numerous and important as those received consciously. This is much more true of appeals to the ear alone than it is of printed matter and constitutes the chief difference between the radio approach and the leaflet-newspaper approach.

76. **TECHNIQUE OF RADIO PSYCHOLOGICAL WARFARE.** With the above three considerations in mind, the principles governing the conduct of psychological warfare by radio are the same as those used in other media. Repetition is of the essence; it eventually produces a kind of hypnotic effect. Actually, the formula does not have to be changed as often as it does in printed matter; the same slogan can be used over a much longer time with advantageous results. Witness the successful use in our commercial advertising of slogans which become "signatures" in certain programs, i. e., "ABC—Always Buy Chesterfields." The notion of authenticity and consistency is also important, although the clever propagandist can take more liberties with this factor on the radio than he can in printed matter. The effect of a radio statement is impermanent, can be colored by voice tone and context, and cannot be "thrown back" at the user with the same effectiveness as can a printed statement. Choice of words and phrases is highly important and more vivid emotional coloring can be given to them on the radio than can be done in print.

77. **USE OF RADIO IN WORLD WAR I.** It was in World War I that we find the first systematic use of the radio as a medium to influence mass opinion. That war was the first "total war"—not only in its mobilization of manpower and industrial resources—but also in the organized use of

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the psychological weapon of propaganda. The fact that the efforts were halting and awkward, that radio technology was in its infancy, that the role played was a relatively minor one should not deceive us as to its historical importance. Because, from these puny beginnings there was built a structure which has placed a new and murderous weapon in the hands of the wielders of "total war."

78. GERMAN USE OF THE RADIO IN WORLD WAR I. The Germans turned to the radio in World War I for the simple reason that the Allies controlled the trans-Atlantic cables and the radio was their only means of transmitting their version of the news to the outside world. They offered free news services to papers in neutral countries when British and American concerns were charging stiff fees for these same services. Thus they secured an outlet for the German interpretation of the news of the world.

79. DEVELOPMENTS DURING THE 1920's. During the 1920's all of the European nations became more and more acutely aware of the coming role of the radio in the field of international politics. The Russians made extensive use of it in consolidating the results of the Bolshevik revolution. While most of the Russian effort was concentrated in the Soviet Union itself, we find them making the first tentative steps in the international field: i. e., during the Bela Kun uprising in Hungary in 1919, during the Polish "incident" in 1920, during the dispute with Rumania over Bessarabia in 1926, and during the British general strike in 1930. During the late 1920's and the early 1930's, the various European countries with overseas colonies set up short-wave broadcasting services: Holland, France, England, Belgium, and Portugal. Even little Switzerland and Czechoslovakia set up "cultural" short-wave services for their former nationals residing in other countries. At this stage, the intent of these overseas services was not aggressive, but simply to bind the colonies and former nationals more closely to the mother countries. Nor was there at this stage any intent to extend these services to interested parties in other countries, although this would follow inevitably as a matter of course. The League of Nations established its outlet (*Radio-Nations*) in 1932 to expound the doctrine of internationalism and it actually helped organize world opinion for the sanctions against Italy during the Ethiopian war. But, in general, its programs were dull and poorly constructed, all fundamental rules of applied psychology were neglected, and the institution was not a success.

80. SYSTEMATIZED USE OF RADIO BY JAPANESE AND GERMANS. The first large-scale use of the radio as a psychological weapon in support of actual warfare was made by the Japanese in the years following the outbreak of the China "incident". Stations were established in Manchukuo to broadcast programs manufactured partly or wholly in Japan and large numbers of free receiving sets were distributed among the people. The fact that many of the proud owners of the free Japanese sets preferred to tune in on the strong Chinese station at Nanking was not

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part of the plan. But, it was the coming to power of the Nazis in Germany in 1933—and the installation of Josef Goebbels as propaganda chief—that the full use of radio as a potent weapon of aggressive foreign policy entered its present-day phase. The German radio became closely geared to the Reich's political intentions; it was used cynically to persuade and delude, to terrorize and mesmerize the particular public to which its programs were beamed. Like Mrs. Grundy, it became "all things to all men." It twisted and turned to preserve some semblance of consistency in the various stories it told, but held it more important that the particular programs have the desired effect on the people for whom they were prepared. Herr Goebbels and Co. hoped that perhaps the inconsistencies wouldn't be noticed and compared by enough people to make any difference; that was a gamble which had to be taken. The Nazi planners had a very low opinion of the reasoning power of the mass of the people and it was in influencing the masses that they were especially interested.

81. THE GERMAN RADIO "SYSTEM" UNDER JOSEF GOEBBELS. Every trick in the bag was brought into play in the course of this diabolically clever campaign. Dignified "straight" news programs were mixed with the rankest sort of rumor-mongering and outright lies until the unsuspecting listener was left in a state of complete confusion. In the first category (and this constituted the bulk of the material) were the official communiques of the Army and the government, pronouncements by recognized commentators like General Dietrich and a large volume of non-controversial news, much of which was repeated from BBC and American stations. In the second category were tricky feature items, "traitor" broadcasts like those of the British William Joyce and the American Douglas Chandler, "planted" programs which seemed to emanate from neutral countries but were really concoctions of German-controlled news sources in those countries, "ghost" programs which were broadcast on the same wave-lengths as well known British and American stations, open falsifications of news items which they claimed to have taken from BBC, etc. Overseas listeners were reassured as to Germany's peaceful intentions once her "legitimate" claims had been satisfied,—while her home public was told frankly that the goal was world domination. Each movement of aggression was prepared carefully by a preliminary radio campaign; a steadily "stepped up" radio barrage reached hysterical proportions just before the actual movement of the armed forces took place; once the event had transpired a grave, calm and unruffled campaign explained logically why the move had been necessary and inevitable.

82. THE BRITISH LEARN SLOWLY. This intricate and powerful German campaign drove the British radio to successful competition more rapidly than it might have developed otherwise. Even so, and despite the advantage given them by having used the radio for political purposes during World War I, British radio efforts lagged far behind the elaborate German campaign. It was not until after the catastrophe of Dunkirk that the Brit-

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ish began to make "all out" use of the radio as a weapon of political warfare. As early as 1932 BBC had established an Overseas Service for the Empire and the United States; this was merely an expansion of the Home Service of BBC. The programs were dull and the tempo leisurely. Very little attention was paid to making the material appealing to English-speaking audiences whose tastes were different from those of the British themselves. Compared to the sprightly tone of the competitive American radio, the British offerings were colorless and Americans did not care for these warmed-over scraps of an original British meal. BBC programs in languages other than English had the same defects. They were simple translations (often poorly done and delivered with a strong British accent) of what had been given the British audience. Scant attention was paid to the special tastes of the country or countries for which a given program had been prepared.

83. BRITISH WEAKNESSES IN THE PRE-DUNKIRK ERA. In the pre-Dunkirk phase, the intellectual tone of the British radio made its appeal to a necessarily limited audience. Indeed, while BBC made some progress in the field of popularization later on, we must confess that the restrained traditionalism characteristic of the British "upper classes" distinguishes their radio offerings of that day from those of other nations. Where the German radio made its appeal to the masses (as the American radio still does, but for a different reason), the British seem to have, consciously or unconsciously, arrived at the conclusion that it is more important to strengthen old ties and win new friends among "the people who count"—among those who guide the destinies of nations. But, the greatest weakness of British radio technique in the period before Dunkirk was that it let the Germans define the issues and accepted the enemy formulation of the problem. The Nazis presented the struggle as a clash between the decadent "old system" and the vital "new order," as a battle between plutocrats and proletariat. Having let the enemy assign the roles in the cast, BBC attempted to defend the benefits and political freedom of the democratic system. They made the mistake of not attacking the position which the Nazis had assigned to themselves. To military men, the following two points are axioms:

a. When you elect to go on the defensive, you select your own defensive position; you avoid at all costs letting the enemy choose it for you.

b. Very frequently a strong counter-attack is more effective (and in the long run less costly) than a prolonged and purely static defense. In the early days of their radio war with the Nazis, the British committed both of these errors. As a result, many open-minded listeners in all countries, influenced by the hypnotic repetition of the German radio, came to feel that the "new order" might contain some good points. It was only much later that the British radio, belatedly aware of its error, began to expose the fallacies of the German argument.

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84. **THE NEW BRITISH RADIO CAMPAIGN.** In mid-1940 British political warfare by radio entered a new phase. We might say that this development parallels a general regeneration of British attitude which took place under Winston Churchill's vigorous leadership. The old defensive attitude disappeared. J. B. Priestly and others tore to pieces the myth of the "Nordic superman" and attacked the Nazis as bullies, gangsters, and neurotics. German claims of a bright new world were contrasted with concentration camps and crematoria. BBC began to flood Europe with foreign-language broadcasts designed to give heart to partisans in all countries under German control and to stiffen neutrals in their resistance to nazi-fascist intimidation. Overseas programs to all countries took on a more attractive form and were tailored for the particular audiences which they were intended to influence. In short, BBC got down to serious business in the use of the radio as an instrument of political warfare and its campaign was closely geared to the fighting war effort of an aroused British nation. The Political Warfare Executive (PWE) and the Ministry of Information (MOI) meshed their activities and BBC became their official organ of expression. Political warfare was organized and channelized and the result was a streamlined weapon of high caliber. BBC programs continued to be marked by an air of restrained dignity and there was never any of the hysterical caterwauling so frequent in the outpourings of the German radio. Any loss in emotional appeal was compensated by a reputation for steadiness and dependability. Thinking people the world over (including many Americans) formed the habit of tuning in on BBC for the calmest and most authentic presentation of the world situation. And it was to this type of audience that the major effort of BBC was always directed.

85. **THE UNITED STATES ENTERS THE FIELD.** At the time this country entered World War II, our experience in the use of radio political warfare was negligible. We had been foremost in the general and technical evolution of radio and we had developed radio advertising into a fine art, but we had never made use of the radio as an instrument of international politics. This seems strange when we realize that we had been one of the main targets of the political warfare of other nations throughout the decade of the 1930's. The explanation lies in part in the isolationism which characterized our foreign policy during this era. The disillusionment which followed World War I led this nation to want to separate itself as far as possible from "international entanglements." The second factor was that our radio industry was organized on the basis of private ownership and individual enterprise. The competing chains understood and executed brilliantly their separate campaigns of commercial advertising, but the concept of national political warfare involved the idea of centralized control which they feared and would have resisted with every resource at their disposal; in this resistance they would have been supported by the overwhelming sentiment of the American public. Further, the very idea of propaganda is distasteful to our people as a whole and its use as an instrument of national policy would have been interpreted as official interfer-

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ence in the affairs of other nations; all of this was in conflict with the "hands off" policy which prevailed at that time. Proof of this basic dislike for "propaganda" and for centralized control is given by the opposition which the Office of War Information (OWI) encountered throughout its existence, an opposition which resulted eventually in the liquidation of the agency in the latter part of 1945.

86. ORGANIZATION FOR WARTIME PSYCHOLOGICAL WARFARE BY RADIO. With the need for psychological warfare facilities apparent and pressing, various agencies were established and authorized to carry out specified functions. The Office of War Information, in close cooperation with the Departments of State, Army and Navy, came to be the clearing house of policy directives governing the conduct of our part of the Allied radio campaign. Short-wave stations were operated by the OWI in New York and San Francisco. However, as the British and Germans had already discovered, under present conditions of technology and reception facilities short-wave radio can only be considered as an important supplementary activity. In most of the countries to be reached, too few people own short-wave receiving sets to make it possible to talk to a large audience. BBC and the German radio were able to "blanket" the desired areas on standard wave lengths; it was necessary for us to find means of doing the same thing. This meant that actual broadcasting operations of strategic radio activity had to be transferred to the theaters of operations. A certain amount of the more elaborate script and program production could be done in this country by teams of experts, but the actual transmission had to be handled by the Theater Psychological Warfare Division from standard wave-length stations. Post-war investigation revealed that very few Japanese had heard our short-wave programs from San Francisco; it was only after we started transmitting from a standard wave length station on Saipan that our programs began to reach large numbers of Japanese. Further, the bulk of the programs can be produced better in the theaters (in conformity with policy directives, of course) because they are so much closer to the latest developments.

87. BRITISH-AMERICAN COOPERATION IN THE RADIO FIELD. In the European and Mediterranean Theaters, radio sections (like all other sections of psychological warfare divisions) were composed of mixed American-British military-civilian personnel. It is only fair to say that in the early days the British were far ahead of us in the field of radio political warfare and we learned a lot from them. This was true to such an extent that American officials and propagandists often complained that the British were running the joint activity in their own national interest. The charge was unjust. The British had a long start on us and their policy-intelligence-operation integration was more highly developed than our own. When the Americans seemed without clear policies or propaganda purposes, it was natural that the British should take the lead and let the Americans follow if they wished. In fact, we benefited immensely from

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the association, and toward the end of the war our contribution to the collaborative effort was of quite as high a quality as that of the British.

88. AMERICAN OVERSEAS STATIONS. In northern Europe BBC was our chief outlet in the years preceding the Normandy invasion. A great many programs were prepared in collaboration with the British, but time was also allotted for exclusively American broadcasts. During the war a chain of new stations (ABSIE: American Broadcasting Stations in Europe) went into operation under American control. Captured stations (the very important Radio Luxembourg) were repaired and activated. In North Africa, Radio Algiers was for a long time the outlet for "Voice of America" programs in the Mediterranean area. The French colonial authorities also gave us all the time we requested on lesser stations like Rabat and Tunis. Additional stations were constructed "from scratch." With the invasion of southern Italy, Radio Bari was captured intact and from there it was possible to cover adequately southeastern Europe and the Middle East as well as to give additional coverage of North Africa. At a later date the very powerful Radio Rome gave us an outlet in southern Europe almost as important as BBC was in the north. In the Asiatic theaters, various stations were constructed to broadcast to local populations. For instance, OWI had its own transmitting equipment from which it broadcast to the population of inner China. Here, as in other areas of Asia, there is considerable doubt as to whether the influence exerted justified the effort and expense. The scarcity of receiving sets in the areas in question eliminated one of the two essential factors of successful strategic psychological warfare (i. e., audience-volume plus insistent repetition). Japan was the one country where conditions were favorable for strategic radio activity, but, until Saipan was captured and a station erected there, we had at our disposal no standard wave station from which Japan could be reached. The short-wave programs from San Francisco were heard by a limited number of influential Japanese intellectuals, but there was no means of getting at the masses.

89. OUR WARTIME RADIO THEMES. Programs treated a set of standard themes: the rising power of the western democracies and hopelessness of the Axis cause: the absence of expansionist ambitions from our plans for the world of the future: our desire to see self-governing peoples live prosperously at peace with one another, etc. The periodic statements of plans and policy by responsible Allied leaders were read in all languages. Decisions of conferences of Allied leaders (Yalta, Teheran, etc.) were announced and explained. Musical shows and other features "dressed up" the programs, but the backbone was news, news, news. As the war progressed and the Allied successes followed on one another's heels, the programming became easier and less ingenuity was required to explain the progress of the war to neutrals and to enemy populations. Events spoke for themselves and the handwriting was on the wall for all to see. We had

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only to emphasize and underscore what the developments meant and to repeat our statements about our intentions for the post-war world.

90. **CENTRALIZED POLICY CONTROL IS A "MUST."** In radio work, as in other forms of psychological warfare, there must be established a source of highest level policy control under a single authority. When this control is lacking, various energetic separate agencies are likely to indulge in conflicting statements; this makes for a confused and vacillating policy which can even produce dangerous situations. If too much freedom of low-level policy formulation is permitted, there arise duplications, contradictions and lack of integration of the work of the different agencies. To achieve the fullest effectiveness of psychological warfare, it is imperative that there be close coordination between policy, intelligence and operations. This can be obtained only when the policy is clear and consistent.

91. **PERSONNEL SHOULD BE MILITARY.** Insofar as possible, the personnel of psychological warfare at the theater level (as well as at lower levels) should be military. Some civilian-technicians and civilian-political advisers will probably always be necessary, but experience has shown that a civilian-dominated agency does not (and cannot) work well in an area under military control where all other activities are operated by the Army. For this reason, the Army must train in peacetime a personnel qualified to fill most of the jobs of psychological warfare divisions in the overseas theaters. The larger the percentage of jobs in psychological warfare divisions which can be staffed immediately with army personnel, the greater are the chances of immediate and continuing successful functioning of these divisions. When qualified technical personnel is not available in army circles and it is necessary to bring them in from civilian life, they should be incorporated in the Army insofar as possible. The civilian element in a unit operating in an area under military control should be held to the lowest possible minimum.

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Exhibit 5



Our Epidemic of Loneliness and Isolation

2023

The U.S. Surgeon General's Advisory on the
Healing Effects of Social Connection and Community



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Letter from the Surgeon General



Dr. Vivek H. Murthy
19th and 21st Surgeon General
of the United States

When I first took office as Surgeon General in 2014, I didn't view loneliness as a public health concern. But that was before I embarked on a cross-country listening tour, where I heard stories from my fellow Americans that surprised me.

People began to tell me they felt isolated, invisible, and insignificant. Even when they couldn't put their finger on the word "lonely," time and time again, people of all ages and socioeconomic backgrounds, from every corner of the country, would tell me, "I have to shoulder all of life's burdens by myself," or "if I disappear tomorrow, no one will even notice."

It was a lightbulb moment for me: social disconnection was far more common than I had realized.

In the scientific literature, I found confirmation of what I was hearing. In recent years, about one-in-two adults in America reported experiencing loneliness.¹⁻³ And that was before the COVID-19 pandemic cut off so many of us from friends, loved ones, and support systems, exacerbating loneliness and isolation.

Loneliness is far more than just a bad feeling—it harms both individual and societal health. It is associated with a greater risk of cardiovascular disease, dementia, stroke, depression, anxiety, and premature death. The mortality impact of being socially disconnected is similar to that caused by smoking up to 15 cigarettes a day,⁴ and even greater than that associated with obesity and physical inactivity. And the harmful consequences of a society that lacks social connection can be felt in our schools, workplaces, and civic organizations, where performance, productivity, and engagement are diminished.

Given the profound consequences of loneliness and isolation, we have an opportunity, and an obligation, to make the same investments in addressing social connection that we have made in addressing tobacco use, obesity, and the addiction crisis. This Surgeon General's Advisory shows us how to build more connected lives and a more connected society.

If we fail to do so, we will pay an ever-increasing price in the form of our individual and collective health and well-being. And we will continue to splinter and divide until we can no longer stand as a community or a country. Instead of coming together to take on the great challenges before us, we will further retreat to our corners—angry, sick, and alone.

We are called to build a movement to mend the social fabric of our nation. It will take all of us—individuals and families, schools and workplaces, health care and public health systems, technology companies, governments, faith organizations, and communities—working together to destigmatize loneliness and change our cultural and policy response to it. It will require reimagining the structures, policies, and programs that shape a community to best support the development of healthy relationships.

Each of us can start now, in our own lives, by strengthening our connections and relationships. Our individual relationships are an untapped resource—a source of healing hiding in plain sight. They can help us live healthier, more productive, and more fulfilled lives. Answer that phone call from a friend. Make time to share a meal. Listen without the distraction of your phone. Perform an act of service. Express yourself authentically. The keys to human connection are simple, but extraordinarily powerful.

Each of us can start now, in our own lives, by strengthening our connections and relationships.

Loneliness and isolation represent profound threats to our health and well-being. But we have the power to respond. By taking small steps every day to strengthen our relationships, and by supporting community efforts to rebuild social connection, we can rise to meet this moment together. We can build lives and communities that are healthier and happier. And we can ensure our country and the world are better poised than ever to take on the challenges that lay ahead.

Our future depends on what we do today.



Vivek H. Murthy, M.D., M.B.A.

19th and 21st Surgeon General of the United States
Vice Admiral, United States Public Health Service

About the Advisory

LEARN MORE

Visit our website for more information and resources about social connection:
SurgeonGeneral.gov/Connection



A Surgeon General's Advisory is a public statement that calls the American people's attention to an urgent public health issue and provides recommendations for how it should be addressed. Advisories are reserved for significant public health challenges that require the nation's immediate awareness and action.

This advisory calls attention to the importance of social connection for individual health as well as on community-wide metrics of health and well-being, and conversely the significant consequences when social connection is lacking. While social connection is often considered an individual challenge, this advisory explores and explains the cultural, community, and societal dynamics that drive connection and disconnection. It also offers recommendations for increasing and strengthening social connection through a whole-of-society approach. The advisory presents a framework for a national strategy with specific recommendations for the institutions that shape our day-to-day lives: governments, health care systems and insurers, public health departments, research institutions, philanthropy, schools, workplaces, community-based organizations, technology companies, and the media.

This advisory draws upon decades of research from the scientific disciplines of sociology, psychology, neuroscience, political science, economics, and public health, among others. This document is not an exhaustive review of the literature. Rather, the advisory was developed through a substantial review of the available evidence, primarily found via electronic searches of research articles published in English and resources suggested by a wide range of subject matter experts, with priority given to meta-analyses and systematic literature reviews. The recommendations in the advisory draw upon the scientific literature and previously published recommendations from the National Academies of Sciences, Engineering and Medicine, the Centers for Disease Control and Prevention, the American Heart Association, and the World Health Organization.

The findings and recommendations in the advisory are also informed by consultations with subject matter experts from academia, health care, education, government, and other sectors of society, including more than 50 identified experts who reviewed and provided individual detailed feedback on an early draft that has informed this advisory.

For additional background and to read other Surgeon General's Advisories, visit **SurgeonGeneral.gov**

Glossary

Belonging

A fundamental human need — the feeling of deep connection with social groups, physical places, and individual and collective experiences.⁵

Collective Efficacy

The willingness of community members to act on behalf of the common good of the group or community.⁶

Empathy

The capability to understand and feel the emotional states of others, resulting in compassionate behavior.^{7,8}

Loneliness

A subjective distressing experience that results from perceived isolation or inadequate meaningful connections, where inadequate refers to the discrepancy or unmet need between an individual's preferred and actual experience.^{9,10}

Norms of Reciprocity

A sense of reciprocal obligation that is not only a transactional mutual benefit but a generalized one; by treating others well, we anticipate that we will also be treated well.^{11,12}

Social Capital

The resources to which individuals and groups have access through their social connections.^{13,14} The term social capital is often used as an umbrella for both social support and social cohesion.¹⁵

Social Cohesion

The sense of solidarity within groups, marked by strong social connections and high levels of social participation, that generates trust, norms of reciprocity, and a sense of belonging.^{13,15-18}

Social Connectedness

The degree to which any individual or population might fall along the continuum of achieving social connection needs.¹⁹

Social Connection

A continuum of the size and diversity of one's social network and roles, the functions these relationships serve, and their positive or negative qualities.^{10,19,20}

Social Disconnection

Objective or subjective deficits in social connection, including deficits in relationships and roles, their functions, and/or quality.¹⁹

Social Infrastructure

The programs (such as volunteer organizations, sports groups, religious groups, and member associations), policies (like public transportation, housing, and education), and physical elements of a community (such as libraries, parks, green spaces, and playgrounds) that support the development of social connection.

Social Isolation

Objectively having few social relationships, social roles, group memberships, and infrequent social interaction.^{19,21}

Social Negativity

The presence of harmful interactions or relationships, rather than the absence of desired social interactions or relationships.^{19,22}

Social Networks

The individuals and groups a person is connected to and the interconnections among relationships. These “webs of social connections” provide the structure for various social connection functions to potentially operate.^{18,23}

Social Norms

The unwritten rules that we follow that serve as a social contract to provide order and predictability in society. The social groups we belong to provide information and expectations, and constraints on what is acceptable and appropriate behavior.²⁴ Social norms reinforce or discourage health-related and risky behaviors (lifestyle factors, vaccination, substance use, etc.).²⁵

Social Participation

A person's involvement in activities in the community or society that provides interaction with others.^{26,27}

Social Support

The perceived or actual availability of informational, tangible, and emotional resources from others, commonly one's social network.^{10,28}

Solitude

A state of aloneness by choice that does not involve feeling lonely.

Trust

An individual's expectation of positive intent and benevolence from the actions of other people and groups.²⁹⁻³¹

Chapter 1 Overview

Introduction: Why Social Connection Matters

Our relationships and interactions with family, friends, colleagues, and neighbors are just some of what create social connection. Our connection with others and our community is also informed by our neighborhoods, digital environments, schools, and workplaces. Social connection—the structure, function, and quality of our relationships with others—is a critical and underappreciated contributor to individual and population health, community safety, resilience, and prosperity.^{6,17,32-36} However, far too many Americans lack social connection in one or more ways, compromising these benefits and leading to poor health and other negative outcomes.

People may lack social connection in a variety of ways, though it is often illustrated in scientific research by measuring loneliness and social isolation. Social isolation and loneliness are related, but they are not the same. Social isolation is objectively having few social relationships, social roles, group memberships, and infrequent social interaction.^{19,21} On the other hand, loneliness is a subjective internal state. It's the distressing experience that results from perceived isolation or unmet need between an individual's preferred and actual experience.^{9,10,19}

The lack of social connection poses a significant risk for individual health and longevity. Loneliness and social isolation increase the risk for premature death by 26% and 29% respectively.³⁷ More broadly, lacking social connection can increase the risk for premature death as much as smoking up to 15 cigarettes a day.⁴ In addition, poor or insufficient social connection is associated with increased risk of disease, including a 29% increased risk of heart disease and a 32% increased risk of stroke.³⁸ Furthermore, it is associated with increased risk for anxiety, depression,³⁹ and dementia.^{40,41} Additionally, the lack of social connection may increase susceptibility to viruses and respiratory illness.⁴²

KEY DATA

Lacking social connection can increase the risk for premature death as much as smoking up to 15 cigarettes a day.

CHAPTER 1: OVERVIEW

The lack of social connection can have significant economic costs to individuals, communities, and society. Social isolation among older adults alone accounts for an estimated \$6.7 billion in excess Medicare spending annually, largely due to increased hospital and nursing facility spending.⁴³ Moreover, beyond direct health care spending, loneliness and isolation are associated with lower academic achievement^{44,45} and worse performance at work.⁴⁶⁻⁴⁸ In the U.S., stress-related absenteeism attributed to loneliness costs employers an estimated \$154 billion annually.⁴⁶ The impact of social connection not only affects individuals, but also the communities they live in. Social connection is an important social determinant of health, and more broadly, of community well-being, including (but not limited to) population health, community resilience when natural hazards strike, community safety, economic prosperity, and representative government.^{13,15,17,34-36,49,50}

What drives these profound health and well-being outcomes? Social connection is a fundamental human need, as essential to survival as food, water, and shelter. Throughout history, our ability to rely on one another has been crucial to survival. Now, even in modern times, we human beings are biologically wired for social connection. Our brains have adapted to expect proximity to others.^{51,52} Our distant ancestors relied on others to help them meet their basic needs. Living in isolation, or outside the group, means having to fulfill the many difficult demands of survival on one's own. This requires far more effort and reduces one's chances of survival.⁵² Despite current advancements that now allow us to live without engaging with others (e.g., food delivery, automation, remote entertainment), our biological need to connect remains.

The health and societal impacts of social isolation and loneliness are a critical public health concern in light of mounting evidence that millions of Americans lack adequate social connection in one or more ways. A 2022 study found that when people were asked how close they felt to others emotionally, only 39% of adults in the U.S. said that they felt very connected to others.⁵³ An important indicator of this declining social connection is an increase in the proportion of Americans experiencing loneliness. Recent surveys have found that approximately half of U.S. adults report experiencing loneliness, with some of the highest rates among young adults.¹⁻³ These estimates and multiple other studies indicate that loneliness and isolation are more widespread than many of the other major health issues of our day, including smoking (12.5% of U.S. adults),⁵⁴ diabetes (14.7%),⁵⁵ and obesity (41.9%),⁵⁶ and with comparable levels of risk to health and premature death. Despite such high prevalence, less than 20% of individuals who often or always feel lonely or isolated recognize it as a major problem.⁵⁷

KEY DATA

Approximately half of U.S. adults report experiencing loneliness, with some of the highest rates among young adults.

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Together, this represents an urgent public health concern. Every level of increase in social connection corresponds with a risk reduction across many health conditions. Further, social connection can be a proactive approach to living a fulfilled and happy life, enhancing life satisfaction, educational attainment, and performance in the workplace, as well as contributing to more-connected communities that are healthier, safer, and more prosperous.

Unsurprisingly, social connection is generally not something we can do alone and not something that is accessible equitably. That is partially because we need others to connect with, but also because our society—including our schools, workplaces, neighborhoods, public policies, and digital environments—plays a role in either facilitating or hindering social connection.^{10,32} Moreover, it is critical to carefully consider equity in any approach to addressing social connection, as access and barriers to social opportunities are often not the same for everyone and often reinforce longstanding and historical inequities.

This advisory calls attention to the critical role that social connection plays in individual and societal health and well-being and offers a framework for how we can all contribute to advancing social connection.

What is Social Connection?

Social connection can encompass the interactions, relationships, roles, and sense of connection individuals, communities, or society may experience.^{10,19,20} An individual's level of social connection is not simply determined by the number of close relationships they have. There are many ways we can connect socially, and many ways we can lack social connection. These generally fall under one of three vital components of social connection: structure, function, and quality.

- **Structure**

The number of relationships, variety of relationships (e.g., co-worker, friend, family, neighbor), and the frequency of interactions with others.

- **Function**

The degree to which others can be relied upon for various needs.

- **Quality**

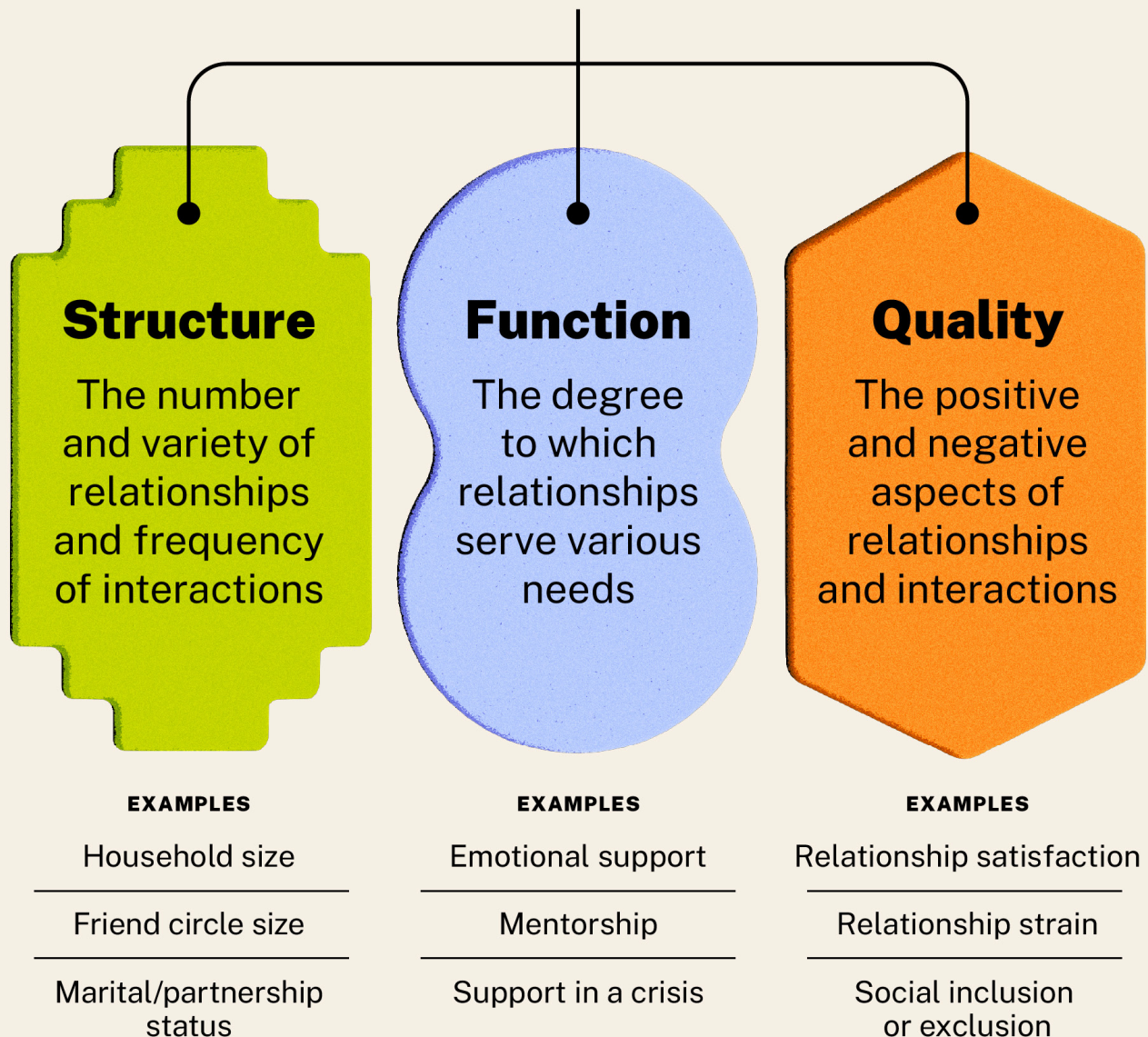
The degree to which relationships and interactions with others are positive, helpful, or satisfying (vs. negative, unhelpful, or unsatisfying).

These three vital components of social connection are each important for health,^{4,32} and may influence health in different ways.²⁰

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The Three Vital Components of Social Connection

The extent to which an individual is socially connected depends on multiple factors, including:



Source: Holt-Lunstad J. Why Social Relationships Are Important for Physical Health: A Systems Approach to Understanding and Modifying Risk and Protection. *Annu Rev Psychol.* 2018;69:437-458.



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FIGURE 1: The Three Vital Components of Social Connection

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It's also critical to understand other defining features of social connection.

First, it is a continuum. Too often, indicators of social connection or social disconnection are considered in dichotomous ways (e.g., someone is lonely or they're not), but the evidence points more to a gradient.^{58,59} Everyone falls somewhere on the continuum of social connection, with low social connection generally associated with poorer outcomes and higher social connection with better outcomes.⁵⁹

Second, social connection is dynamic. The amount and quality of social connection in our lives is not static. Social connectedness changes over time and can be improved or compromised for a myriad of reasons. Illness, moves, job transitions, and countless other life events, as well as changes in one's community and society, can all impact social connectedness in one direction or another. Further, how long we remain on one end of the continuum may matter. Transient feelings of loneliness may be less problematic, or even adaptive, because the distressing feeling motivates us to reconnect socially.⁶⁰ Similarly, temporary experiences of solitude may help us manage social demands.⁶¹ However, chronic loneliness (even if someone is not isolated) and isolation (even if someone is not lonely) represent a significant health concern.^{21,62,63}

Third, much like the absence of disease does not equate to good health, the absence of social deficits (e.g., loneliness) does not necessarily equate to high levels of social connection. Although some measures of social connection represent the full continuum, others only focus on deficits, which do not capture the degree to which social assets may contribute to resilience, or even enable thriving.⁵⁸ Consider two examples: first, an individual who is part of a large, highly-involved family, and second, an individual who has regular contact with colleagues through work but has little time for personal relationships outside of work. In each case, such an individual is not objectively isolated and may not feel subjectively lonely. However, in both cases key measures of isolation and loneliness may miss whether they are reaping the benefits of social connection in other ways, such as feeling adequately supported or having high-quality, close relationships.

Current Trends: Is Social Connection Declining?

Across many measures, Americans appear to be becoming less socially connected over time.^{12,64} This is not a new problem—certain declines have been occurring for decades. While precise estimates of the rates of social connection nationally can be challenging because studies vary based on which indicator is measured, when the same measure is used at multiple time points, we can identify trends.

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KEY DATA

Polls conducted in 1972 showed that roughly 45% of Americans felt they could reliably trust other Americans; however, that proportion shrank to roughly 30% in 2016.

Changes in key indicators, including individual social participation, demographics, community involvement, and use of technology over time, suggest both overall societal declines in social connection and that, currently, a significant portion of Americans lack adequate social connection.

A fraying of the social fabric can also be seen more broadly in society. Trust in each other and major institutions is at near historic lows.⁶⁵ Polls conducted in 1972 showed that roughly 45% of Americans felt they could reliably trust other Americans; however, that proportion shrank to roughly 30% in 2016.⁶⁶ This corresponds with levels of polarization being at near historic highs.^{65,67} These phenomena combine to have widespread effects on society, including many of the most pressing issues we face as a nation.

Trends in Social Networks and Social Participation

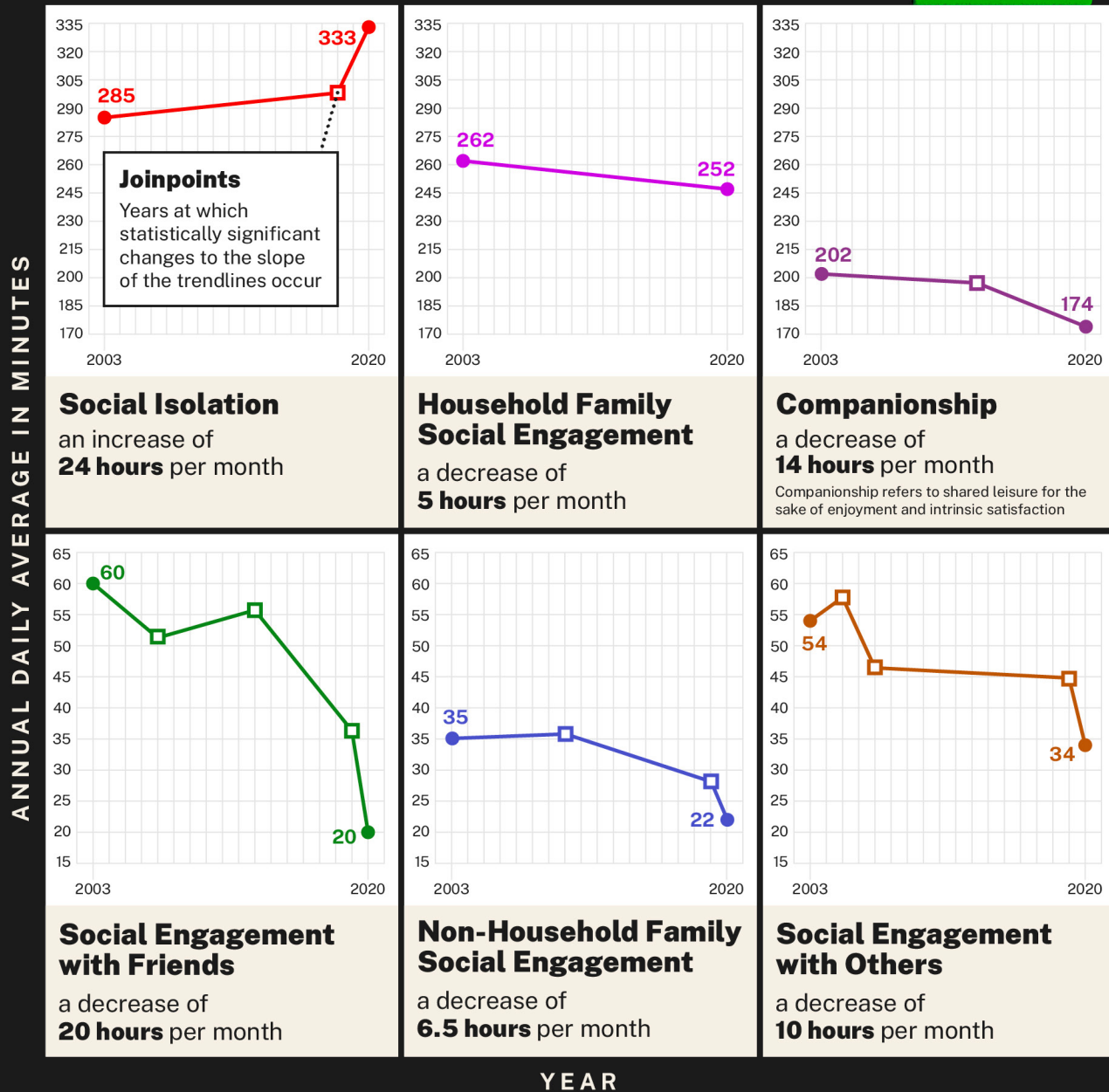
Social networks are getting smaller, and levels of social participation are declining distinct from whether individuals report that they are lonely. For example, objective measures of social exposure obtained from 2003-2020 find that social isolation, measured by the average time spent alone, increased from 2003 (285-minutes/day, 142.5-hours/month) to 2019 (309-minutes/day, 154.5-hours/month) and continued to increase in 2020 (333-minutes/day, 166.5-hours/month).⁶⁴ This represents an increase of 24 hours per month spent alone. At the same time, social participation across several types of relationships has steadily declined. For instance, the amount of time respondents engaged with friends socially in-person decreased from 2003 (60-minutes/day, 30-hours/month) to 2020 (20-minutes/day, 10-hours/month).⁶⁴ This represents a decrease of 20 hours per month spent engaging with friends. This decline is starkest for young people ages 15 to 24. For this age group, time spent in-person with friends has reduced by nearly 70% over almost two decades, from roughly 150 minutes per day in 2003 to 40 minutes per day in 2020.⁶⁴ The COVID-19 pandemic accelerated trends in declining social participation.

The number of close friendships has also declined over several decades. Among people not reporting loneliness or social isolation, nearly 90% have three or more confidants.⁵⁷ Yet, almost half of Americans (49%) in 2021 reported having three or fewer close friends—only about a quarter (27%) reported the same in 1990.⁶⁸ Social connection continued to decline during the COVID-19 pandemic, with one study finding a 16% decrease in network size from June 2019 to June 2020 among participants.⁶⁹

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National Trends for Social Connection

From 2003 to 2020, time spent alone increased, while time spent on in-person social engagement decreased.



Source: Adapted from Viji Diane Kannan, Peter J. Veazie, US Trends in Social Isolation, Social Engagement, and Companionship: Nationally and by Age, Sex, Race/ethnicity, Family Income, and Work Hours, 2003–2020, *SSM - Population Health*, Volume 21, 2023. The joinpoints are visual approximations.



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FIGURE 2: National Trends for Social Connection

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Demographic Trends

Societal trends, including demographic changes such as age, marital/partnership status, and household size, also provide clues to current trends. For example, family size and marriage rates have been in steady decline for decades.⁷⁰ The percentage of Americans living alone has also increased decade-to-decade. In 1960, single-person households accounted for only 13% of all U.S. households.⁷⁰ In 2022, that number more than doubled, to 29% of all households.⁷⁰

KEY DATA

In 1960, single-person households accounted for only 13% of all U.S. households. In 2022, that number more than doubled, to 29% of all households.

The reasons people choose to remain single or unmarried, have smaller families, and live alone over time are complex and encompass many factors. Yet at the same time, it is important to acknowledge the contribution these demographic changes have on social disconnection because of the significant health impacts identified in the scientific evidence. Moreover, awareness can help individuals consider these impacts and cultivate ways to foster sufficient social connection outside of chosen traditional means and structures.

Awareness can help individuals consider these impacts and cultivate ways to foster sufficient social connection outside of chosen traditional means and structures.

The research in this section points to overall declines in some of the critical structural elements of social connection (e.g., marital status, household size), which helps to explain increases in reported loneliness and social isolation and contributes to the overall crisis of connection we are experiencing. Finally, this suggests we have fewer informal supports to draw upon in times of need—all while the number of older individuals and those living with chronic conditions continues to increase.

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KEY DATA

16%

In 2018, only 16% of Americans reported that they felt very attached to their local community.

Trends in Community Involvement

Although the concept of community has evolved over time, many traditional indicators of community involvement, including with religious groups, clubs, and labor unions, show declining trends in the United States since at least the 1970s.^{12,71} In 2018, only 16% of Americans reported that they felt very attached to their local community.⁷²

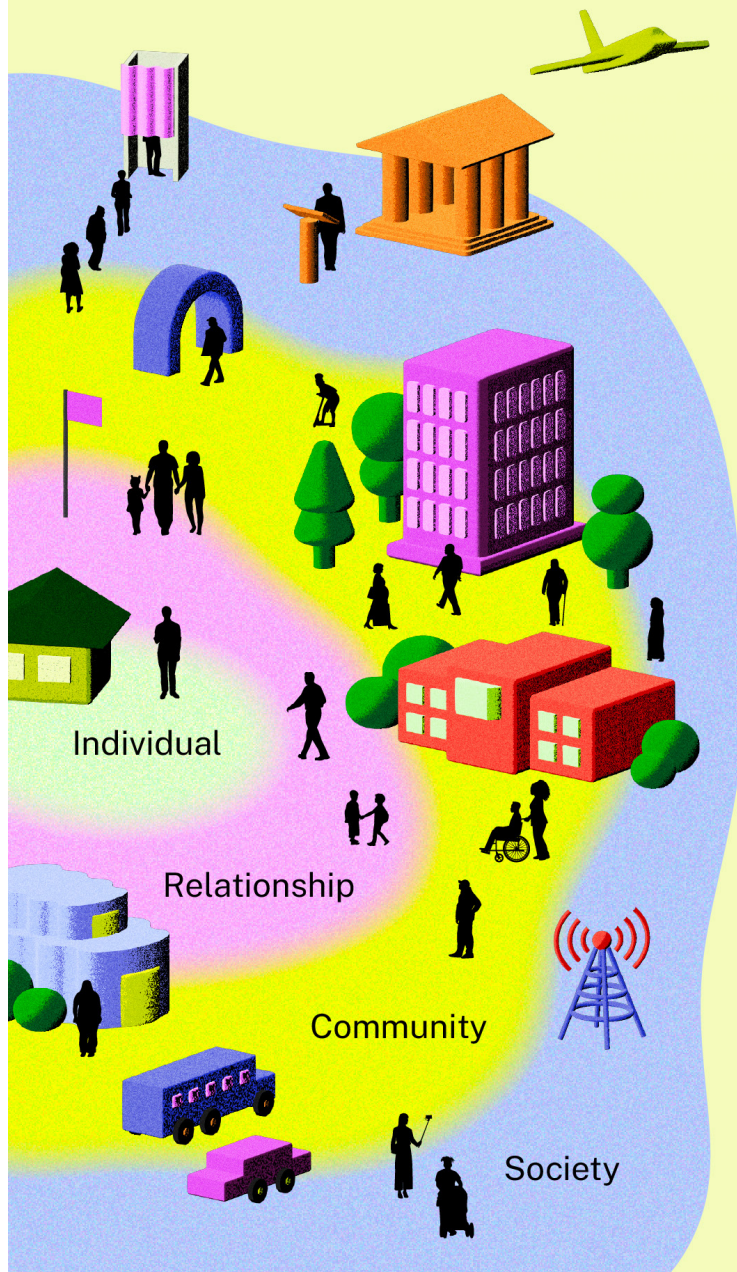
Membership in organizations that have been important pillars of community connection have declined significantly in this time. Take faith organizations, for example. Research produced by Gallup, Pew Research Center, and the National Opinion Research Center's General Social Survey demonstrates that since the 1970s, religious preference, affiliation, and participation among U.S. adults have declined.⁷³⁻⁷⁵ In 2020, only 47% of Americans said they belonged to a church, synagogue, or mosque. This is down from 70% in 1999 and represents a dip below 50% for the first time in the history of the survey question.⁷⁵ Religious or faith-based groups can be a source for regular social contact, serve as a community of support, provide meaning and purpose, create a sense of belonging around shared values and beliefs, and are associated with reduced risk-taking behaviors.⁷⁶⁻⁷⁸ As a consequence of this decline in participation, individuals' health may be undermined in different ways.¹⁶

What Leads Us to Be More or Less Socially Connected?

A wide variety of factors can influence an individual or community's level of social connection. One organizing tool that helps us better understand these factors is the social-ecological model.^{79,80} This model organizes the interrelated factors that affect health on the individual level, in our relationships, in our communities, and in society. Each of these levels—from the smallest to the broadest—contribute to social connection and its associated risks and protection for health.

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Factors That Can Shape Social Connection



Individual

- Chronic disease
- Sensory and functional impairments
- Mental health
- Physical health
- Personality
- Race
- Gender
- Socioeconomic status
- Life stage

Relationships

- Structure, function, and quality
- Household size
- Characteristics and behaviors of others
- Empathy

Community

- Outdoor space
- Housing
- Schools
- Workplace
- Local government
- Local business
- Community organizations
- Health care
- Transportation

Society

- Norms and values
- Public policies
- Tech environment and use
- Civic engagement
- Democratic norms
- Historical inequities



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FIGURE 3: Factors That Can Shape Social Connection

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Social connection is most often viewed as driven by the individual—one’s genetics, health, socioeconomic status, race, gender, age, household living situation, and personality, among other factors. These can influence motivation, ability, or access to connect socially. As we’ve seen, the level of one’s connection is also dependent on the structure, function, and quality of relationships. However, connectedness is influenced by more than simply personal or interpersonal factors. It is also shaped by the social infrastructure of the community (or communities) in which one is born, grows up, learns, plays, works, and ages.

Social infrastructure includes the physical assets of a community (such as libraries and parks), programs (such as volunteer organizations and member associations), and local policies (such as public transportation and housing) that support the development of social connection.

The social infrastructure of these communities is in turn influenced by broader social policies, cultural norms, the technology environment, the political environment, and macroeconomic factors. Moreover, individuals are simultaneously influenced by societal-level conditions such as cooperation, discrimination, inequality, and the collective social connectedness or disconnectedness of the community.²³ All of these shape the availability of opportunities for social connection.

In sum, social connection is more than a personal issue. The structural and social characteristics of the community produce the settings in which people build, maintain, and grow their social networks.^{36,81,82} Because many contributors to social connection go beyond an individual’s control, in order to promote health, change is needed across the full scope of the social-ecological model. While every factor listed in **Figure 3**, as well as some not captured, can be important contributors to social connection, it’s important to look across these levels. That gives us clues to barriers to connection and the types of interventions which could successfully increase social connection. This broader view can also help identify what places groups at highest risk for social isolation and loneliness, as well as factors that reinforce cycles of risk or resilience.

...in order to promote health, change
is needed across the full scope of the
social-ecological model.

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KEY DATA

The rate of loneliness among young adults has increased every year between 1976 and 2019.

Groups at Highest Risk for Social Disconnection

Anyone of any age or background can experience loneliness and isolation, but some groups are at higher risk than others. Not all individuals or groups experience the factors that facilitate or become barriers to social connection equally. Some people or groups are exposed to greater barriers. It's critical to examine and highlight the disproportionate risk they face and to target interventions to address their needs.

Although risk may differ across indicators of social disconnection, currently, studies find the highest prevalence for loneliness and isolation among people with poor physical or mental health, disabilities, financial insecurity, those who live alone, single parents, as well as younger and older populations.^{1,64,83} For example, while the highest rates of social isolation are found among older adults,⁶⁴ young adults are almost twice as likely to report feeling lonely than those over 65.¹

The rate of loneliness among young adults has increased every year between 1976 and 2019.⁸⁴ In addition, lower-income adults are more likely to be lonely than those with higher incomes. Sixty-three percent of adults who earn less than \$50,000 per year are considered lonely, which is 10 percentage points higher than those who earn more than \$50,000 per year.¹ These data do not suggest that individual or demographic factors inherently generate loneliness or isolation. Rather, the data enable us to understand the different socioeconomic, political, and cultural mechanisms that may indicate higher risk for certain groups and lead to loneliness and isolation.

Additional at-risk groups may include individuals from ethnic and racial minority groups, LGBTQ+ individuals, rural residents, victims of domestic violence, and those who experience discrimination or marginalization. Further research is needed to fully understand the disproportionate impacts of social disconnection.

Impacts of Technology on Social Connection

There is more and more evidence pointing to the importance of our environments for health, and the same is true for digital environments and our social health. A variety of technologies have quickly and dramatically changed how we live, work, communicate, and socialize. These technologies include social media, smartphones, virtual reality, remote work, artificial intelligence, and assistive technologies, to name just a few.

These technologies are pervasive in our lives. Nearly all teens and adults under 65 (96-99%), and 75% of adults 65 and over, say that they use the internet.⁸⁵ Americans spend an average of six hours per day on digital media.⁸⁶ One-in-three U.S. adults 18 and over report that they are online "almost constantly,"⁸⁷ and

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the percentage of teens ages 13 to 17 years who say they are online “almost constantly” has doubled since 2015.⁸⁸ When looking at social media specifically, the percentage of U.S. adults 18 and over who reported using social media increased from 5% in 2005 to roughly 80% in 2019.⁸⁹ Among teens ages 13 to 17 years, 95% report using social media as of 2022, with more than half reporting it would be hard to give up social media.⁸⁸ Although tech adoption is relatively high among all groups, Americans with disabilities,⁹⁰ adults with lower incomes,⁹¹ and Americans from rural areas⁹² continue to experience a persistent, albeit shrinking, digital divide. They are relatively less likely to own a computer, smartphone, or tablet, or have broadband internet access.⁹⁰⁻⁹²

Technology has evolved rapidly, and the evidence around its impact on our relationships has been complex. Each type of technology, the way in which it is used, and the characteristics of who is using it, needs to be considered when determining how it may contribute to greater or reduced risk for social disconnection. There are multiple meta-analyses⁹³⁻⁹⁶ and reviews⁹⁷⁻¹⁰⁵ examining this topic that identify both benefits and harms.

KEY DATA

In a U.S.-based study, participants who reported using social media for more than two hours a day had about double the odds of reporting increased perceptions of social isolation compared to those who used social media for less than 30 minutes per day.

Several examples of benefits include technology that can foster connection by providing opportunities to stay in touch with friends and family, offering other routes for social participation for those with disabilities, and creating opportunities to find community, especially for those from marginalized groups.^{97,106-108} For example, online support groups allow individuals to share their personal experiences and to seek, receive, and provide **social support**—including information, advice, and emotional support.^{95,104}

Several examples of harms include technology that displaces in-person engagement, monopolizes our attention, reduces the quality of our interactions, and even diminishes our self-esteem.^{97,109,110} This can lead to greater loneliness, fear of missing out, conflict, and reduced social connection. For example, frequent phone use during face-to-face interactions between parents and children, and between family and friends, increased distraction, reduced conversation quality, and lowered self-reported enjoyment of time spent together in-person.¹¹¹⁻¹¹³ In a U.S.-based study, participants who reported using social media for more than two hours a day had about double the odds of reporting increased perceptions of social isolation compared to those who used social media for less than 30 minutes per day.¹¹⁴ Additionally, targets of online harassment report feelings of increased loneliness, isolation, and relationship problems, as well as lower self-esteem and trust in others.¹¹⁵ Evidence shows that even perpetrators of cyberbullying experience weakened emotional bonds with social contacts and deficits in perceived belongingness.¹¹⁵

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Understanding how technology can enhance or detract from social connection is complicated by ever-changing social media algorithms, complex differences in individual technology use, and balancing concerns over obtaining private user data. Advancing research in this area is essential. With that said, the existing evidence illustrates that we have reason to be concerned about the impact of some kinds of technology use on our relationships, our degree of social connection, and our health.

...the existing evidence illustrates that we have reason to be concerned about the impact of some kinds of technology use on our relationships, our degree of social connection, and our health.

Risk and Resilience Can Be Reinforcing

The factors that facilitate, or become barriers to, social connection can also reinforce either a virtuous or vicious cycle.¹¹⁶ Economic status, health, and service are just a few illustrative examples—better social connection can lead to better health, whereas less social connection can lead to poorer health. However, each of these can be reinforcing. Being in poorer health can become a barrier to engaging socially, reducing social opportunities and support, and reinforcing a vicious cycle of poorer health and less connection.¹¹⁷⁻¹¹⁹ A similar kind of pattern could occur among those struggling financially. For example, financial insecurity may require someone to work multiple jobs, resulting in less leisure time and limiting opportunities for social participation and connection—which, in turn, could provide fewer resources and financial opportunities. While these cycles can be reinforcing, they are not always negative. There is, for instance, a virtuous cycle between social connection and volunteerism or service. Those who are more connected to their communities are more likely to engage in service, and those who are engaged in service are more likely to feel connected to their communities and the individuals in it.¹²⁰ Interestingly, there is also evidence showing that the well-being benefits associated with volunteering are even greater for those with higher social connectedness than those with less.¹²¹ Because these cycles can be reinforcing, prioritizing social connection can not only disrupt vicious cycles but also reinforce virtuous ones.

Lessons from the COVID-19 Pandemic

While social connection had been declining for decades prior to the COVID-19 pandemic, the onset of the pandemic, with its lockdowns and stay-at-home orders, was a critical time during which the issue of connection came to the forefront of public consciousness, raising awareness about this critical and ongoing public health concern.

Many of us felt lonely or isolated in a way we had never experienced before. We postponed or canceled meaningful life moments and celebrations like birthdays, graduations, and marriages. Children's education shifted online—and they missed out on the many benefits of interacting with their friends. Many people lost jobs and homes. We were unable to visit our children, siblings, parents, or grandparents. Many lost loved ones. We experienced feelings of anxiety, stress, fear, sadness, grief, anger, and pain through the loss of these moments, rituals, celebrations, and relationships.

Although the COVID-19 pandemic was a collective experience, it impacted certain populations differently. Frontline workers had a different experience than those who could work from home. Parents managing their own work and their children's online school had a different experience than single young people unable to interact in-person with friends. And those at greater risk of severe COVID-19, including older individuals, those living in nursing homes, and people with underlying health conditions, faced unique challenges. Emerging data suggests that people with close and

positive familial connections may have had a different experience than those without. A recent national survey showed that, by April 2021, 1 in 4 individuals reported feeling less close to family members compared to the beginning of the pandemic.¹²² Yet, at the same time, about 1 in 5 said they felt closer to family members,¹²² perhaps indicating that the pandemic exacerbated existing family dynamics of connection or disconnection.

We also witnessed first responders, health care workers, community members, neighbors, and volunteers stepping up and offering their social support to one another. Service can be a powerful source of connection. From September 2020 to September 2021, the majority (51%) of U.S. individuals ages 16 and older reported informally helping others.¹²³ This represents more than 120 million U.S. individuals helping informally, in addition to an estimated 60 million individuals formally volunteering through an organization during the same period.¹²³ By engaging in service work, many were able to find and create pockets of connection for themselves and others during a public health crisis.

While profoundly disruptive in so many ways, the COVID-19 pandemic offers an opportunity to reflect more deeply on the state of social connection in our lives and in society. As we emerge from this era, rebuilding social connection and community offers us a promising and hopeful way forward.

Chapter 2 **How Social Connection Impacts Individual Health and Well-Being**

Extensive scientific findings from a variety of disciplines, including epidemiology, neuroscience, medicine, psychology, and sociology, converge on the same conclusion: social connection is a significant predictor of longevity and better physical, cognitive, and mental health, while social isolation and loneliness are significant predictors of premature death and poor health.^{10,20,32,124} In fact, the benefits of social connection extend beyond health-related outcomes. They influence an individual's educational attainment, workplace satisfaction, economic prosperity, and overall feelings of well-being and life fulfillment. This chapter summarizes the rapidly growing body of evidence on the relationship between various indicators of social connection and these outcomes for individuals.

Individual Health Outcomes

Survival and Mortality

“Over four decades of research has produced robust evidence that lacking social connection — and in particular, scoring high on measures of social isolation — is associated with a significantly increased risk for early death from all causes.”¹⁰

2020 Consensus Study Report,
National Academies of Sciences Engineering and Medicine

Evidence across scientific disciplines converges on the conclusion that socially connected people live longer. Large population studies have documented that, among initially healthy people tracked over time, those who are more socially connected live longer, while those who experience social deficits, including isolation, loneliness, and poor-quality relationships, are more likely to die earlier, regardless of the cause of death.^{37,125-128} Systematic research demonstrating the link between social connection and mortality risk dates to one of the first large-scale longitudinal epidemiological studies conducted in 1979.¹²⁹ This research found that people who lacked social connection were more than twice as likely than those with greater social connection to die within the follow-up period, even after accounting for age, health status, socioeconomic status, and health practices.¹²⁹

KEY DATA

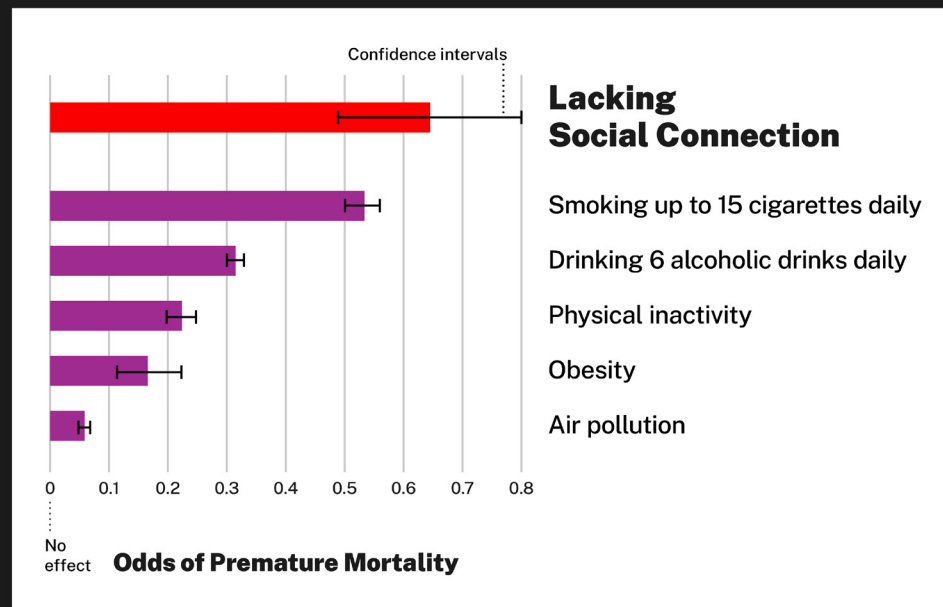
50%

Data across 148 studies, with an average of 7.5 years of follow-up, suggest that social connection increases the odds of survival by 50%.

More recent estimates, based on synthesizing data across 148 studies, with an average of 7.5 years of follow-up, suggest that social connection increases the odds of survival by 50%.¹²⁸ Indeed, the effects of social connection, isolation, and loneliness on mortality are comparable, and in some cases greater, than those of many other risk factors (see **Figure 4**) including lifestyle factors (e.g., smoking, alcohol consumption, physical inactivity), traditional clinical risks factors (e.g., high blood pressure, body mass index, cholesterol levels), environmental factors (e.g., air pollution), and clinical interventions (e.g., flu vaccine, high blood pressure medication, rehabilitation).^{128,130}

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Lacking social connection is as dangerous as smoking up to 15 cigarettes a day.



Source: Holt-Lunstad J, Robles TF, Sbarra DA. Advancing Social Connection as a Public Health Priority in the United States. *American Psychology*. 2017;72(6):517-530. doi:10.1037/amp0000103. This graph is a visual approximation.

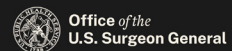


FIGURE 4: Lacking social connection is as dangerous as smoking up to 15 cigarettes a day.

Over the years, the number of studies, the rigor of their methods, and the size of the samples have all increased substantially, providing stronger confidence in this evidence. These replicate the finding that social connection decreases the risk of premature death.

Taken together, this research establishes that the lack of social connection is an independent risk factor for deaths from all causes, including deaths caused by diseases.¹³¹

CHAPTER 2: INDIVIDUAL HEALTH

KEY DATA

A synthesis of data across 16 independent longitudinal studies shows poor social relationships (social isolation, poor social support, loneliness) were associated with a 29% increase in the risk of heart disease and a 32% increase in the risk of stroke.

Cardiovascular Disease

The evidence linking social connection to physical health is strongest in heart disease and stroke outcomes.^{10,58} Dozens of studies have found that social isolation and loneliness significantly increase the risk of morbidities from these conditions.^{10,132,133} Among this evidence, a synthesis of data across 16 independent longitudinal studies shows poor social relationships (social isolation, poor social support, loneliness) were associated with a 29% increase in the risk of heart disease and a 32% increase in the risk of stroke.³⁸ Interestingly, these effects can begin early in life and stretch over a lifetime. Research has also found that childhood social isolation is associated with increased cardiovascular risk factors such as obesity, high blood pressure, and blood glucose levels in adulthood.¹³³⁻¹³⁵ Further, in a 2022 statement, the American Heart Association concluded that “social isolation and loneliness are common, yet underrecognized, determinants of cardiovascular health and brain health.”¹³³

Heart failure patients who reported high levels of loneliness had a 68% increased risk of hospitalization, a 57% higher risk of emergency department visits, and a 26% increased risk of outpatient visits, compared with patients reporting low levels of loneliness.¹³⁶ Combining data from 13 studies on heart failure patients, researchers found that poor social connection is associated with a 55% greater risk of hospital readmission.¹³⁷ This was consistent across both objective and perceived social isolation, including living alone, lack of social support, and poor social network. Furthermore, evidence suggests that people who are less socially connected, particularly those living alone, may be less likely to make it to the hospital, increasing their risk of dying from a cardiac event.¹³⁸ Conversely, a heart attack is less likely to be fatal for people living with others or who have more social contacts, perhaps because of the immediate response and availability of help during the event.¹³⁸

Hypertension

High blood pressure (hypertension) is one of the leading causes of cardiovascular disease.¹³⁹ Several studies demonstrate that the more social support one has, the greater the reduction in the possibility of developing high blood pressure, even in populations who are at higher risk for the condition, such as Black Americans. Greater social support in this group is associated with a 36% lower risk of high blood pressure in the long-term.¹⁴⁰ Among older adults, the effect of social isolation on hypertension risk is even greater than that of other major clinical risk factors such as diabetes.⁵⁹

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Since high blood pressure most often doesn't have symptoms, it is possible for people to be unaware of even severe underlying cases.¹⁴¹ The disorder may remain undiagnosed for years, which can elevate the risk for a wide range of physiological complications.¹⁴¹ However, among older adults, people with higher perceived emotional support from family and friends, and with frequent exposure to health-related information within their social networks, are significantly less likely to have undiagnosed and uncontrolled hypertension.¹⁴²

The results of many research studies also reflect a strong correlation between social connection and high blood pressure control. Regular participation in two or more social or community-based groups¹⁴³; emotional and informational support from family, friends, professional contacts, community organizations, and peer groups¹⁴⁴⁻¹⁴⁶; and frequent network interactions¹⁴² may improve hypertension management, including following treatment recommendations and long-term lifestyle adjustments. Findings from the National Social Life, Health, and Aging Project (NSHAP) suggest a "causal role of social connections in reducing hypertension," particularly in adults over the age of 50.⁵⁹

Diabetes

Evidence gathered over the last 25 years has demonstrated that social context is important to the development and management of diabetes.¹⁴⁷ Population-based studies show the impact of social connection on the development of type 2 diabetes and diabetic complications.^{148,149} For example, social disconnection (poor structural social support¹⁵⁰ and living alone¹⁵¹ in men, low emotional support in women,¹⁵² and not having a current partner in women older than 70¹⁵³) has been linked to an increased risk for the development of type 2 diabetes. Furthermore, living alone increased the risk of developing type 2 diabetes among women with impaired glucose tolerance.¹⁵⁴

By contrast, social connection has been associated with better self-rated health and disease management among individuals with diabetes.¹⁵⁵⁻¹⁵⁷ The involvement and support of family members has also been repeatedly shown to improve disease management and the health of people with type 1 diabetes and type 2 diabetes.¹⁴⁷ Whereas, smaller social network size has been associated with newly diagnosed type 2 diabetes and complications from diabetes.^{148,149} These associations between social connection and broader diabetic outcomes including diagnosed pre-diabetes and type 2 diabetes, macrovascular complications (e.g., heart attack, stroke) and microvascular complications (e.g., diabetic retinopathy, impaired sensitivity in the feet, and signs of kidney disease) were independent of blood sugar (glucose) control, quality of life, and other cardiac risk factors.^{148,149}

KEY DATA

The involvement and support of family members has been repeatedly shown to improve disease management and the health of people with type 1 diabetes and type 2 diabetes.

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What explains this phenomenon? Diabetic outcomes may be better among people who are more socially connected due to better diabetic management behaviors and patient self-care such as medication adherence, physical activity, diet, and foot care. For example, in a meta-analysis of 28 studies, social support from family and friends was significantly associated with better self-care, particularly blood sugar monitoring.¹⁵⁸ Finally, evidence from the National Health and Nutrition Examination Survey found that among older adults with diabetes, those with a large social support network size (at least six close friends) had a reduced risk of all-cause mortality.¹⁵⁹

Infectious Diseases

People who are less socially connected may have increased susceptibility and weaker immune responses when they are exposed to infectious diseases. In a series of studies examining factors that contribute to illness after exposure to viruses like the common cold and flu, loneliness and poor social support were found to significantly contribute to the development and severity of the illnesses.^{42,160} In one study where participants were exposed to a common cold virus, individuals with social ties to six or more diverse social roles (e.g., parent, spouse, friend, family, co-worker, group membership) had a four-fold lower risk of developing a cold when compared to people who had ties to fewer (1-3) diverse social roles.¹⁶¹ These effects cannot be explained by previous exposure, since those who are more socially connected have stronger immune responses independent of baseline antibody count—suggesting stronger immune responses even when exposed to new viruses.⁴² A study conducted on immune responses to the COVID-19 vaccine found that a lack of social connection with neighbors and resultant loneliness was associated with weaker antibody responses to the vaccine.¹⁶²

KEY DATA

50%

Chronic loneliness and social isolation can increase the risk of developing dementia by approximately 50% in older adults.

Cognitive Function

Substantial evidence also links social isolation and loneliness with accelerated cognitive decline and an increased risk of dementia in older adults,^{10,41} including Alzheimer's disease.¹⁶³ Chronic loneliness and social isolation can increase the risk of developing dementia by approximately 50% in older adults, even after controlling for demographics and health status.⁴¹ A study that followed older adults over 12 years found that cognitive abilities declined 20% faster among those who reported loneliness.¹⁶⁴

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When taken together, this evidence consistently shows that wider social networks and more frequent social engagements with friends and family are associated with better cognitive function and may protect against the risk of dementia.^{40,165} This suggests that investments in social connection may be an important public health response to cognitive decline.

Depression and Anxiety

Depression and anxiety are often characterized by social withdrawal, which increases the risk for both social isolation and loneliness; however, social isolation and loneliness also predict increased risk for developing depression and anxiety and can worsen these conditions over time. A systematic review of multiple longitudinal studies found that the odds of developing depression in adults is more than double among people who report feeling lonely often, compared to those who rarely or never feel lonely.³⁹ Furthermore, in older adults, both social isolation and loneliness have been shown to independently increase the likelihood of depression or anxiety.¹⁶⁶ These findings are also consistent among younger people. A review of 63 studies concluded that loneliness and social isolation among children and adolescents increase the risk of depression and anxiety, and that this risk remained high even up to nine years later.¹⁶⁷

Importantly, social connection also seems to protect against depression even in people with a higher probability of developing the condition. For example, frequently confiding in others is associated with up to 15% reduced odds of developing depression among people who are already at higher risk due to their history of traumatic or otherwise adverse life experiences.¹⁶⁸

Suicidality and Self-Harm

“Social isolation is arguably the strongest and most reliable predictor of suicidal ideation, attempts, and lethal suicidal behavior among samples varying in age, nationality, and clinical severity.”¹⁶⁹

2010 Study, “The Interpersonal Theory of Suicide”

While many factors may contribute to suicide, more than a century of research has demonstrated significant links between a lack of social connection and death by suicide. This research suggests that social connection may protect against suicide as a cause of death, especially for men.

KEY DATA

Loneliness and social isolation among children and adolescents increase the risk of depression and anxiety.

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One study found that among men, deaths due to suicide are associated with loneliness and more strongly with indicators of objective isolation such as living alone.¹⁷⁰ In this study of over 500,000 middle-aged adults, the probability of dying by suicide more than doubled among men who lived alone. The same study showed that for women loneliness was significantly associated with hospitalization for self-harm.¹⁷⁰ Further, when examining suicidality among nursing home and other long-term care facility residents,¹⁷¹ cancer patients,¹⁷² older adults,¹⁷³ and adolescents,¹⁷⁴ systematic reviews of studies on loneliness, social isolation, and low social support were associated with suicidal ideation. These links may result from a low sense of belonging and perceiving oneself as a burden to others.¹⁶⁹

Loneliness and low social support are also associated with increased risk of self-harm. In a review of 40 studies of more than 60,000 older adults, an increase in loneliness was reported to be among the primary motivations for self-harm.¹⁷⁵

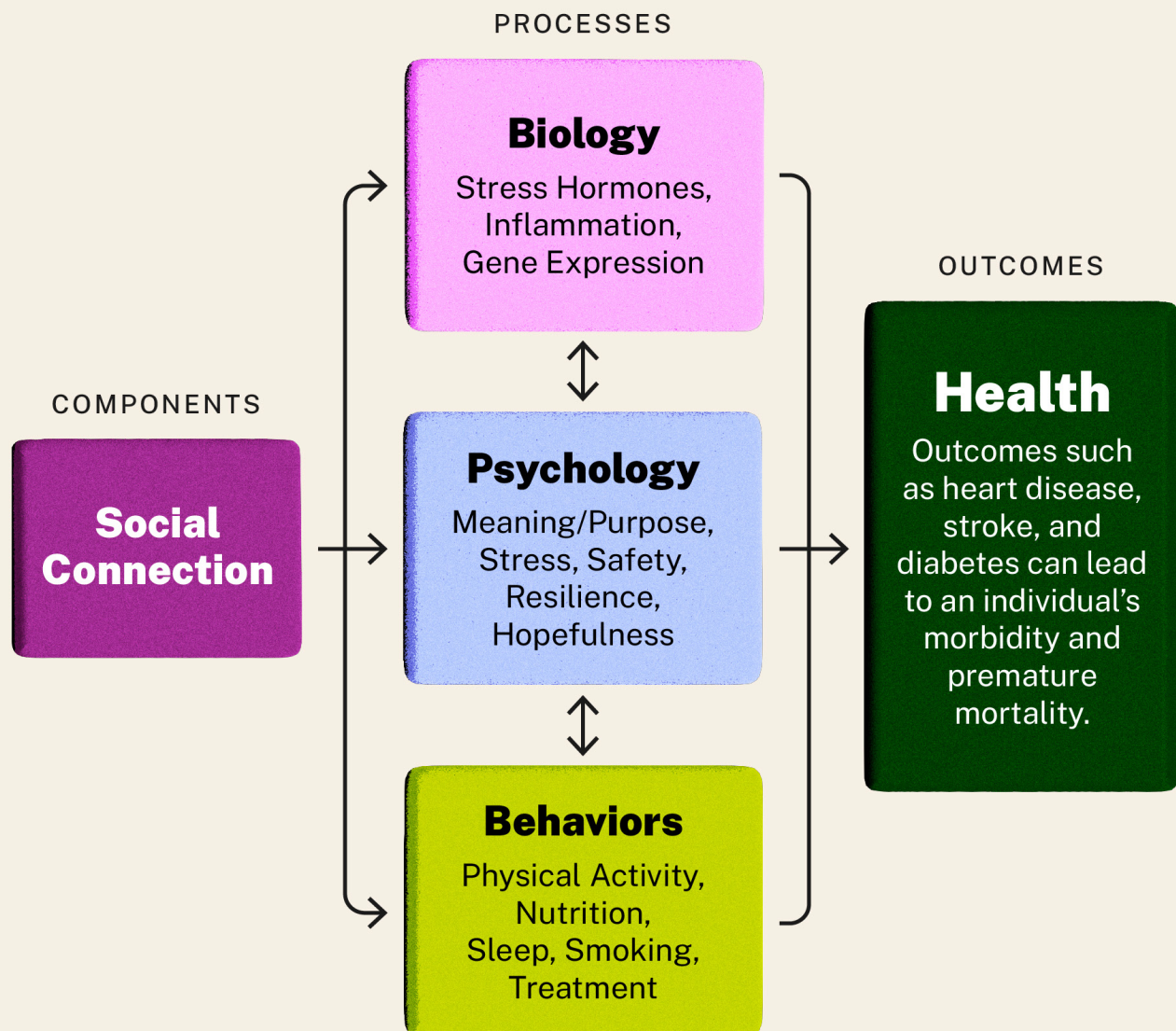
Given the totality of the evidence, social connection may be one of the strongest protective factors against self-harm and suicide among people with and without serious underlying mental health challenges.

Social Connection Influences Health Through Multiple Pathways

While the effects of social connection on health are clear, research also helps explain how our level of social connection ultimately results in better or worse health. A key part of the explanation involves understanding how social connection influences behavioral, biological, and psychological processes, which in turn influence health outcomes. A large body of evidence has identified several plausible pathways (see **Figure 5**).^{59,176-180}

How Does Social Connection Influence Health?

Social connection influences health through **three principal pathways**: biology, psychology, and behavior.



Source: Holt-Lunstad J. The Major Health Implications of Social Connection. *Current Directions in Psychological Science*. 2021;30(3):251-259.



Office of the
U.S. Surgeon General

FIGURE 4: How Does Social Connection Influence Health?

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Social Connection Influences Biological Processes

The role of social connection on biology emerges early in life and continues across the life course, contributing to risk and protection from disease.⁵⁹ Several reviews document that social connection can influence health through specific biological pathways, including cardiovascular and neuroendocrine dysregulation,¹⁸¹ immunity,^{42,177,182-184} and gut-microbiome interactions.^{185,186} Because regulation of these systems is critical for good health, the documented influence between social connection and these biological pathways likely explains the impact on the risk of the development of disease.

Biological systems often do not operate independently. This means that increases in blood pressure, circulating stress hormones, and inflammation may occur simultaneously, potentially compounding risk across several biological systems.¹⁸⁷

One biological pathway of great interest is inflammation, given that it has been implicated as a factor in many chronic illnesses.¹⁸⁸ Evidence shows that being objectively isolated, or even the perception of isolation, can increase inflammation to the same degree as physical inactivity.⁵⁹ Similarly, lower social support is associated with higher inflammation.^{189,190} Chronic inflammation throughout the body has been linked to various chronic illnesses across the lifespan, such as cardiovascular disease, cancer, diabetes, depression, and Alzheimer's disease, as well as a variety of mental, cognitive, and physical health outcomes^{188,191} that increase the risk of premature mortality. Thus, inflammation may be a common pathway that explains the many diverse health outcomes associated with isolation and loneliness.

The protective, or positive, effects of social connection may operate on biological systems in a similar way, meaning that social connection may reduce the risk of disease by reducing biological system dysregulation. For example, increased levels of social connection can improve various biomarkers of cardiovascular functioning, including blood pressure,¹⁹² cardiovascular reactivity,¹⁹³ and oxidative stress.¹⁹⁴ In addition, social support and social bonding are associated with better regulation of the neuroendocrine system, including the role of oxytocin in both early life and adult attachment.^{181,195-197}

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KEY DATA

Adults across the globe rate their social relationships, particularly with family and close friends, as the most important source of meaning, purpose, and motivation in their lives.

Social Connection Influences Psychological Processes

Social connection can also influence health through psychological processes, such as the sense of meaning and purpose. Adults across the globe rate their social relationships, particularly with family and close friends, as the most important source of meaning, purpose, and motivation in their lives.¹⁹⁸ A sense of meaning positively contributes to health because it motivates greater self-regulation in pursuing goals—including health goals.¹⁸⁰ Furthermore, evidence suggests that individuals with higher purpose and perceived emotional and practical support from their social networks are more likely to engage in health-promoting behaviors, such as the use of preventive health care services.^{199,200}

Other psychological processes, including the perception of stress, may also have implications for health because they can influence our biology and behavior. For example, higher social connection provides increased opportunities for and access to support, thus reducing the likelihood of perceiving challenging situations as stressful and helping us cope with stressful situations to minimize their impact.^{28,201} Conversely, being isolated or in poor quality relationships can increase the likelihood that one perceives potential challenges as stressful. This stress may be heightened because the individual has less support and fewer resources to draw upon to cope with the situation.^{28,201}

Though certain forms of manageable, short-term challenges can boost performance and motivation in day-to-day life, chronic stress and cumulative biologic burden can contribute to worsened health outcomes. For example, stress can contribute to poorer health-related behaviors, cause disruptions in brain development, and increase the risk for mental health conditions and other health problems such as obesity, heart disease, and diabetes.²⁰²⁻²⁰⁵ Additionally, while loneliness, poor-quality relationships, and social negativity can aggravate stress responses and influence long-term health outcomes,²⁰⁶ being more socially connected can buffer against maladaptive stress responses and the negative health effects of stress.^{28,201}

A sense of meaning positively contributes to health because it motivates greater self-regulation in pursuing goals—including health goals.

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Social Connection Influences Behaviors

Social connection is also significantly associated with a number of health-related behaviors, including lifestyle behaviors (e.g., diet, exercise, sleep),²⁰⁷⁻²¹⁰ and treatment adherence (e.g., taking medication as directed, engaging in recommended prevention measures)^{144,199,211,212} which ultimately influence our health and longevity. Social influence can be direct—loved ones encouraging one to get more sleep or reminding one to take their medication—or subtle, through social norms that communicate approval or disapproval of certain behaviors (like vaccination, smoking, exercise). In fact, evidence shows people are far more likely to be physically active if their peers and friends also exercise,^{213,214} and they are more likely to stop smoking themselves if their social contacts do so as well.²¹⁵ However, they are also less likely to stop smoking if they are in close connection to others who smoke, or even at risk for relapse if they had successfully quit smoking previously.^{216,217} Thus, it is clear that it is not just the presence of social connection and social support but the nature of the behaviors and norms in one's social network that influence health-related behaviors.

Individual Educational and Economic Benefits

The benefits of social connection extend beyond the well-being of individuals' health to quality of life, education, employment, and economic outcomes. Just as with health, those who lack sufficient social connection, whether because they are isolated, lonely, or in poor-quality relationships, seem to be at higher risk for poorer outcomes in these aspects of life as well.

Educational Benefits

Research shows that children and adolescents who enjoy positive relationships with their peers, parents, and teachers experience improved academic outcomes. For example, a review of youth mentoring programs found a positive association between mentoring programs intended to promote positive youth outcomes and improved school attendance, grades, and academic achievement test scores.²¹⁸ Further, school and family connectedness during adolescent years may predict subsequent positive outcomes in early adulthood, including a higher likelihood of graduating college and attaining a 4-year college degree.²¹⁹

In contrast, the lack of quality social connections inhibits student progression even in higher education settings. For example, among medical students, feeling socially isolated is associated with dropping out.⁴⁵ The lack of social connection is cited as a prime reason for leaving a program.

CHAPTER 2: INDIVIDUAL HEALTH**Economic Benefits**

Supportive and inclusive relationships at work are associated with employee job satisfaction, creativity, competence, and better job performance.²²⁰⁻²²⁴ Quality social support, social integration, and regular communication among co-workers of all levels are key in preventing chronic work stress and workplace burnout.^{48, 225} These resources may even be linked to shorter recovery times and less missed work after work-related injuries or illnesses.^{225,226} Workplace connectedness is also associated with enhanced individual innovation, engagement, and quality of work, all of which can influence career advancements, income, and overall economic stability.^{220,223}

Social connection outside the workplace also plays an important role in an individual's economic situation. Diverse social networks that facilitate interaction and relationship-building among people of differing socioeconomic status (SES) may provide opportunities for individuals from lower SES backgrounds to gain stronger footing in the labor market and obtain higher-paying jobs.^{227,228} Such bridging, cross-class ties are among the most important predictors of upward economic mobility.

Additionally, activities that better connect individuals to one another, including immersion in local community-based activities or volunteering, can also equip individuals with desirable skills that make them more employable, and significantly increase the likelihood of unemployed individuals becoming employed.²²⁹⁻²³¹

Chapter 3 **How Social Connection Impacts Communities**

Decades of research across disciplines such as political science, economics, sociology, behavioral science, and public health, among others, have examined the relationship between group social connection and population health and well-being.^{13,15,17,34-36,49,50} Though variation exists across studies and methodologies, the cumulative evidence generally points to the same conclusion: higher levels of social connectedness suggest better community outcomes, ranging from population health to community safety, resilience, prosperity, and representative government; while lower levels of social connectedness suggest worse outcomes in each of these areas. These studies establish that social connection is vital not only to our individual physical, mental, and emotional health, but also to the health and well-being of our communities.

This chapter explores what it means to be a socially connected community and examines the evidence that more connected communities benefit from higher levels of well-being. The chapter also addresses the potential harms of negative social connection for community and societal well-being.

Socially Connected Communities

The scientific literature on social connection has defined “community” in many ways.^{232,233} Broadly, the term refers to a group of people with a characteristic in common. For the purpose of this advisory, however, the terms “community” and “communities” refer to a shared geographic location—neighborhoods, towns, cities. This chapter summarizes research that pertains to in-person social connection and the benefits that exist within place-based communities.

This does not diminish other types of communities (including those online) that can also provide support and other important elements of social connection. However, in-depth review of these types of communities is beyond the scope of this advisory and requires additional research.

Social capital is a key concept that researchers have identified as an important characteristic for understanding the social connectedness of communities. The definition and measurement of social capital varies by discipline, but broadly, social capital may be understood as “the resources to which individuals and groups have access through their social networks.”^{13,14} The term social capital is often used as an umbrella for both social support and social cohesion.¹⁵

Social support refers to the perceived or actual availability of emotional, informational, or tangible resources from other individuals in one’s social network.^{10,28}

Social cohesion refers to the sense of solidarity within groups, marked by strong social connections and high levels of social participation, that generates trust, norms of reciprocity, and a sense of belonging.^{13,15,17,18}

Trust is a critical component of socially connected communities and a subjective indicator frequently used to measure social capital.¹⁵ Again, the scientific literature defines trust in many ways, but, broadly, it refers to an individual’s expectation of positive intent and benevolence from the actions of others.²⁹⁻³¹ Trust is an attitude that informs behavior towards unknown people (**generalized trust**), towards a known individual or group (**particularized trust**), or towards organizations and government (**institutional trust**).^{29,234} It underlies communication and cooperation, both elements of social cohesion and social support. Higher levels of trust have been linked to improved population health, economic prosperity, and social functioning.^{15,235}

The **social infrastructure** of a community shapes its social capital. This refers to the programs (such as volunteer organizations, sports groups, religious groups, and member associations), policies (like public transportation, housing, and education), and physical elements of a community (such as libraries, parks, green spaces, and playgrounds) that facilitate bringing people together. Social infrastructure may help a community by providing opportunities to foster social connections among

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residents, local leaders, and community-serving organizations. As social networks grow in size, diversity, and strength, this produces greater levels of social support and social cohesion and builds social capital for a community.

Because belonging to a group is generally adaptive and improves survival, people have a natural tendency to build and maintain relationships with those who are most like themselves (e.g., those with similar educational backgrounds, incomes, professions, or family status).²³⁶ This type of social connection, defined as **bonding social capital**, is important and can provide the support and resources needed not only to prevent or reduce loneliness and social isolation but also to contribute to fulfillment and well-being.^{237,238}

Research suggests that diversifying social relationships to include connections with people who are outside of your group (**bridging social capital**), as well as connections between people of differing power status in the community (**linking social capital**) are also associated with improved community health and well-being.^{13,237-239} Examples of these types of relationships include cultivating intergenerational friendships (bridging) or developing programs like a mentorship exchange between youth and local employers (linking).

Larger and more diverse social networks, with a mixture of types of relationships, can provide access to more varied types of social support and generate greater levels of social capital. Furthermore, interacting with people from diverse backgrounds can help to stimulate creative thinking and encourage the consideration of different perspectives, leading to better problem-solving and decision-making.²⁴⁰ Finally, social interactions with neighbors and other community members—like small gestures such as smiling at a passerby or brief conversations at the bank, post office, grocery store, or local coffee shop—can foster a sense of interpersonal trust and create and maintain norms of reciprocity.^{12,241} This can also increase **empathy**, one of the best documented sources of altruism, by enhancing understanding with one another, supporting the development of shared identities and affiliations, and facilitating cooperation and beneficial interactions across individuals and groups.^{7,8} This helps to generate more social capital for the broader community.

These community interactions can be associated with a positive reinforcing cycle. As this chapter illustrates, individuals who immerse themselves in community-based activities are more likely to experience stronger feelings of social belonging and develop trusting relationships with fellow community members. This can lead people to more readily contribute their time and resources back to their communities. When community-based participation becomes the norm, social networks grow and produce high levels of trust among themselves, which facilitates the efficient exchange of information and sharing of resources within a community.

The Benefits of More Connected Communities

Population Health

KEY DATA

On average, a one-unit increase in social capital increases the likelihood of survival by 17% and of self-reporting good health by 29%.

Communities with higher levels of social connection typically enjoy significantly better health outcomes than communities that have lower levels.^{16,17,242-244} Studies find that community-level social capital is positively associated with a reduced burden of disease and risk for all-cause mortality.^{17,243,245-247} A meta-analysis of several studies looking at the cumulative effects across multiple indicators of social capital on all-cause mortality and general health found that on average, a one-unit increase in social capital increases the likelihood of survival by 17% and of self-reporting good health by 29%.²⁴³ In a separate study using data from 39 states, the authors found a dose-response relationship between the extent of social capital within a community and age-adjusted mortality.²⁴⁸ A 10% increase (one standard deviation) in the proportion of residents in each state who felt that other people could be trusted was associated with an 8% decline in overall mortality.²⁴⁸ Another study found that those with very strong perceptions of community belonging—an indicator of social cohesion—reported very good or excellent health at a rate 2.6 times higher than those with very low perceptions of belongingness.²⁴⁵ This was true even after adjusting for demographic variables, health and health behaviors, and the built environment. Finally, communities with higher levels of social capital are also more likely to see decreased hospital readmission rates.²⁴⁹

The positive effects of social capital on health are not only evident when added up across individuals. Synergistic effects among various aspects of social capital also exist and impact community-wide health outcomes. Connected individuals who leverage available social capital resources to improve their health-related behaviors or collectively reform their community culture can generate downstream improvements in overall population-level health.

For example, personal biases and fears about highly stigmatized diseases such as HIV create barriers to health care and social inclusion for individuals living with HIV.^{250,251} A review of multiple studies shows that high levels of social capital in high-risk populations can buffer against those harmful social barriers and significantly increase the likelihood of HIV prevention behaviors.^{250,252,253}

In turn, members of highly connected communities are more likely to participate in health-protective efforts and seek care when needed, thereby decreasing the disease burden and risk of disease transmission among the whole population. Similarly, more connected communities have higher utilization of immunization services, and are more likely to adopt recommended health-protective behaviors—all of which benefit the broader community.²⁵⁴⁻²⁵⁸

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Evidence also shows that stronger social bonds and social capital in communities increase the likelihood that local community groups and health care institutions will build population health-focused partnerships.²⁵⁹ These partnerships rely on the existing mutual trust and reciprocity within community settings to increase engagement opportunities within the population and improve access to health care in low-resource populations.^{259,260}

On the other hand, several reports have found that lower community social connection is linked to poorer health outcomes. This was made clear when examining the spread of the COVID-19 virus.²⁶¹⁻²⁶⁴ One study in the United States compared changes in the county-level spread of COVID-19 against several measures of social capital.²⁶⁵ These included family structure and involvement, trust in community institutions, popularity of volunteerism, levels of participation in political discussions and voting efforts, and cohesion among community members. After controlling for potential alternative explanatory factors, the researchers found that lower levels of social capital were associated with a higher number of cases and deaths from COVID-19 infection.²⁶⁵ Further, counties with strong social ties experienced fewer deaths during the COVID-19 pandemic.^{263,265} Relatedly, an international study of COVID-19 infection and fatality rates across 177 countries also observed a statistically significant association between greater interpersonal and government trust and lower infection rates.²⁶⁶

Natural Hazard Preparation and Resilience

A community's resilience to natural hazard events such as earthquakes, tsunamis, hurricanes, large-scale flooding, and fires depends upon the collective ability of individuals, households, and institutions to prepare for anticipated events, adapt to and withstand changing conditions, and recover rapidly following disruption.^{267,268}

Studies show that neighbors are often the first to respond in disaster situations, even before trained emergency professionals, because they are physically nearby.³⁴ Growing evidence suggests that in neighborhoods and communities where people know one another and are connected to community institutions (like service organizations, religious groups, or community-based organizations) people prepare for, respond to, and recover more quickly from natural hazards than those with lower levels of social connection.^{232,269}

In such connected communities, it is more likely that people will share their knowledge and informal resources with neighbors, prepare for natural hazards, comply with emergency procedures including evacuation, and engage in coordination of emergency response efforts after natural hazard events.^{35,270}

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Further, high levels of social connection reduce the exodus of people immediately following a natural hazard, preserve valuable social capital like social support and interpersonal trust, enable neighbors to provide aid to one another, and allow communities to overcome collective action problems such as coordinating recovery and rebuilding.³⁵ Despite these benefits of connection within and for neighborhood communities, only 3 in 10 Americans report knowing all or most of their neighbors.⁷²

Community Safety

KEY DATA

One recent study on community violence showed that a one standard deviation increase in social connectedness was associated with a 21% reduction in murders and a 20% reduction in motor vehicle thefts.

Not only do higher levels of social connection within a community correspond to better health and disaster outcomes, but they are also associated with lower levels of community violence.²⁷¹⁻²⁷⁴ One recent study on community violence showed that a one standard deviation increase in social connectedness was associated with a 21% reduction in murders and a 20% reduction in motor vehicle thefts.²⁷¹ The Project on Human Development in Chicago Neighborhoods longitudinal study that began in the late 1990s found that neighborhoods with higher perceptions of social cohesion and where residents felt a “willingness to act” on behalf of community members (**collective efficacy**) were more likely to have reduced levels of crime and residents were more likely to feel safer.⁶ Many subsequent analyses have confirmed the association between social connection, greater perceived collective efficacy, and community safety. Recent studies have found that greater perceived collective efficacy,^{49,275,276} trust,²⁷⁷ and social norms on violence as unacceptable behavior can be protective factors against community violence.^{278,279} Fostering social connection is not a singular solution to community violence; however, it does play an instrumental role in prevention and response.

Economic Prosperity

KEY DATA

A three-year study of 26 cities in the U.S. found that those with the highest levels of resident attachment experienced the greatest growth in GDP during the study period.

Economic prosperity, including economic development, employment, the sharing of economic opportunities or information, and overall economic connectedness, is a key measure of the value that exists within a given society. Evidence illustrates that connected communities generally experience higher levels of economic prosperity. For example, an analysis of economic factors across the U.S. found that communities with higher social capital levels experienced greater resilience against unemployment between 2006 and 2010 and were able to weather the recession more successfully.²⁸⁰ In addition, a three-year study of 26 cities in the U.S. found that those with the highest levels of resident attachment experienced the greatest growth in GDP during the study period.²⁸¹

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Further, members of these connected communities are more likely to recommend job and educational opportunities to one another, collaborate on ideas for innovation, build partnerships for local businesses, and directly advance economic progress in their communities.^{280,282} In addition, longitudinal evidence shows that civic engagement, another form of community participation, in adolescence and early adulthood positively predicts educational attainment and income potential in adulthood.²⁸³ In this way, local community participation may also influence socioeconomic mobility of individuals across their lifespan and also reduce large-scale socioeconomic disparities.

Local community participation may influence socioeconomic mobility of individuals across their lifespan and also reduce large-scale socioeconomic disparities.

In contrast to the clear benefits of community connectedness, the consequences of disconnection on community prosperity can be detrimental. Long-standing systemic disinvestment, inequitable zoning laws, underdeveloped transportation systems, and residential segregation can perpetuate chronic poverty and isolate entire neighborhoods or towns from more prosperous local economies.³⁶ On the other hand, cross-class exposure could have positive impacts on economic mobility across generations.²²⁷ For example, if children of low socioeconomic backgrounds had the share of high socioeconomic friends comparable to that of the average child with a high socioeconomic background, these children would increase their incomes in adulthood by an average of 20%.²²⁷ Pro-connection policies and practices can promote economic prosperity in communities harmed by structural barriers and eliminate such obstacles toward prosperity.

Civic Engagement and Representative Government

Higher levels of social connection are associated with increased levels of civic engagement (defined as “actions to address issues of public concern”) and more representative government.^{15,50,284} Emerging evidence has shown that civic engagement helps to develop “empathy, problem solving, [and] cooperation” among community members.²⁸⁵ One study showed that higher levels of family and community connection during adolescence predicted civic engagement outcomes in young adulthood including a greater likelihood of voting and involvement in social action and conversation groups.²⁸⁶ Further examples of civic engagement include registering to vote and voting, participating in advocacy groups or clubs,

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and connecting to information and current events. In addition, studies show that group membership and social networks strongly influence the decision to participate in the political process.²⁸⁷ Moreover, in a positive cycle, research suggests that greater civic engagement can lead to policies and programs that better reflect the will of a community's residents, which in turn can promote continued and increased civic engagement.^{15,284,288,289}

The Potential Negative Side of Social Connection

Our fundamental human need for belonging is so strong that we may seek it out even in ways that may be unhealthy to ourselves or to our broader community. This can include participation in gangs and joining extremist or other harmful groups. Our natural tendency to associate with those most like us can be manipulated, with potentially negative consequences for individual and community well-being. When there are scarce resources, this can also lead to competition among various groups, leading to an “us” versus “them” mentality.

We tend to view our own group as more favorable and deserving than members of other groups.²⁹⁰ This can result in distrust and rejection of outsiders.²⁹¹ In addition, among highly cohesive groups, there are also strong pressures to conform to the group norms²⁹²—often with high costs like rejection or ostracization if one doesn't comply. While high cohesion and conformity to group norms can be healthy and productive in many cases, among some groups, these social pressures may justify, rationalize, or encourage unhealthy, unsafe, or unfair behaviors such as binge drinking, violence, and discrimination.^{274,292}

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Societal Polarization

One consequence of the natural tendency for people to build and maintain relationships with those who are like themselves is the risk for exacerbating polarization in our discourse and in society—potentially leading to poorer outcomes for broader society.^{237,293,294}

“Core discussion networks,” are circles of people who have conversations on timely but difficult topics such as politics, finances, world events, religion, health, and more. The nature, size, and diversity of these discussion networks are important to how individuals form opinions, attitudes, and awareness of differing perspectives.²⁹⁵ They ultimately foster political tolerance.²⁹⁶ Generally, the size and diversity of core discussion networks have been shrinking substantially over the recent decades.²⁹⁷ One survey of 1,055 U.S. adults during the 2016 U.S. presidential election found that core discussion networks were smaller than in any other observed period and that the proportion of individuals with the same political preference within core discussion networks was higher than reported previously.²⁹⁸

KEY DATA

2x

Growing ideological divisions in America are fueling skepticism and even animosity between groups across the political divide: sentiments of enmity and disapproval between Democrats and Republicans more than doubled between 1994 and 2014.

As discussion networks shrink and become more politically homogenous while society becomes more polarized, it is perhaps not surprising that almost 6 in 10 U.S. adults report that it is “stressful and frustrating” to talk about politics with people who hold different political opinions.²⁹⁹ A recent survey found that 64% of individuals believe that people are incapable of having constructive and civil debates about issues on which they disagree.³⁰⁰ Additionally, growing ideological divisions in the U.S. are fueling skepticism and even animosity between groups across the political divide—sentiments of enmity and disapproval between Democrats and Republicans more than doubled between 1994 and 2014.⁶⁷ Polarization can lead to identity-based extremism and violence, pointing to the urgent need to foster social connection across group-based ideological differences through **bridging social capital**.^{293,294,301}

Chapter 4 **A National Strategy to Advance Social Connection**

The world is just beginning to recognize the vital importance of social connection. While the evidence of the severe consequences of social isolation, loneliness, and overall social disconnection has been building for decades, a global pandemic crystallized and accelerated the urgency for the United States to establish a National Strategy to Advance Social Connection. Such a strategy not only recognizes the critical importance of advancing social connection, but also serves as a commitment to invest in and take actions establishing that our connection with others is a core value of this nation.

As this advisory has shown, fulfilling connections are a critical and often underappreciated contributor to individual and population health and longevity, safety, prosperity, and well-being. On the other hand, social disconnection contributes to many poor health outcomes, and even to premature death. Sadly, around 50% of adults in the U.S. reported being lonely in recent years¹⁻³ — and that was even before COVID-19 separated so many of us from our friends, loved ones, and support systems. Our bonds with others and our community are also part of this equation. Research has shown that more connected communities enjoy higher levels of well-being. The converse is also true. How do we put this important information to practical use in our society? What actionable steps can we take to enhance social connection so that we can all enjoy its benefits?

A National Strategy to Advance Social Connection is the critical next step to catalyze action essential to our nation's health, safety, and prosperity. The strategy includes six foundational pillars and a series of key recommendations, organized according to stakeholder group, to support a whole-of-society approach to advancing social connection. Individuals and organizations can use this framework to propel the critical work of reversing these worrisome trends and strengthening social connection and community.

CHAPTER 4: A NATIONAL STRATEGY

Doing so won't always be easy. Fostering greater connection requires widespread individual and institutional action. It demands our sustained investment, effort, and focus. But it will be worth it, because when we each take these critical steps, we are choosing better lives, and to create a better world for all.

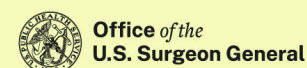
Such a world, where we recognize that relationships are just as essential to our well-being as the air we breathe and the food we eat, is a world where everyone is healthier, physically and mentally. It is a world where we respect and value one another, where we look out for one another, and where we create opportunities to uplift one another. A world where our highs are higher because we celebrate them together; where our lows are more manageable because we respond to them together; and where our recovery is faster because we grieve and rebuild together.

It is a world where we are strong enough to hold our differences, where we are more comfortable and motivated to engage civically, and where our leaders and institutions are more representative of the people they serve. It is a world where we trust one another, where we feel safe to challenge one another and change our minds, and where prosperity and progress are not the privilege of the few but accessible to all.

We can choose, in short, to take the core values that make us strong—love, kindness, respect, service, and commitment to one another—and reflect them in the world we build for ourselves and our children. This strategy shows us how to create the connected lives and the connected world we need.

Benefits of a National Strategy to Advance Social Connection

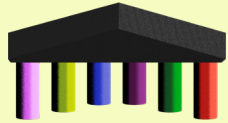
- **Cultivating individual health and well-being** across physical and mental health and educational and economic outcomes. This enables individuals to be happier, more prosperous, and to contribute more fully to society.
- **Strengthening community health, safety, and prosperity** by cultivating social cohesion and social capital within and across communities. This enables communities to overcome adversity and thrive.
- **Building resilience for the next set of challenges** such as natural hazards, pandemics, and safety threats. This enables society to withstand unanticipated crises through stronger recovery and resilience.
- **Advancing civic engagement and representative government** by fostering a more engaged citizenry. This enables policies and programs to better reflect the will of a community and its individuals.



The Six Pillars to Advance Social Connection



FIGURE 6: The Six Pillars to Advance Social Connection



The Six Pillars
to Advance
Social Connection

Pillar 1

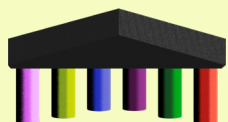
Strengthen Social Infrastructure in Local Communities

- Design the built environment to promote social connection
- Establish and scale community connection programs
- Invest in local institutions that bring people together

Many factors that influence social connection are environmental. Decisions about the layout of our cities, from the usability and reach of public transportation to the design of housing and green spaces, have a direct effect on social interaction in a community.^{302,303} This is why strengthening social infrastructure that promotes social connection is critical to advancing key aspects of community health, resilience, safety, and prosperity. Social infrastructure refers to the programs (such as volunteer organizations, sports groups, religious groups, and member associations), policies (like public transportation, housing, and education), and physical elements of a community (such as libraries, parks, green spaces, and playgrounds) that support the development of social connection.

Investing in local communities and in social infrastructure will fall short if access to the benefits is limited to only some groups. Equitable access to social infrastructure for all groups, including those most at-risk for social disconnection, is foundational to building a connected national and global community, and is essential to this pillar's success.

Moreover, community programs, such as those that connect us to our neighbors, those that help students establish social skills in schools, and those that generate opportunities for high-risk populations to create community, also have a powerful role in building relationships. For example, volunteering is a demonstrated and powerful way to advance connection to one's community and create diverse ties among community members. Finally, institutions that gather individuals for work, study, or prayer, such as workplaces, schools, and faith organizations, can function as sources of positive connection and thereby bolster the community's trust in those institutions and in fellow members. Investing in community connection will be important to repairing divisions and rebuilding trust in each other and our institutions, and is vital to achieving common societal goals.



The Six Pillars
to Advance
Social Connection

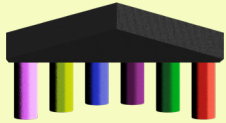
Pillar 2

Enact Pro-Connection Public Policies

- **Adopt a “Connection-in-All-Policies” approach**
- **Advance policies that minimize harm from disconnection**
- **Establish cross-departmental leadership at all levels of government**

National, state, local, and tribal governments play a critical role in strengthening social connection and community across all sectors. These institutions recognize the importance of social connection to the health of their communities. Policymakers understand that while the effects of social connection may be most evident for health, the drivers of connection and disconnection can be found in all types of policies, from transportation and zoning to nutrition and labor. A “Connection-in-All-Policies” approach recognizes that every sector of society is relevant to social connection, and that policy within each sector may potentially hinder or facilitate connection. Conversely, government has a responsibility to use its authority to monitor and mitigate the public health harm caused by policies, products, and services that drive social disconnection.

Prioritizing social connection in policy agendas and leveraging a “Connection-in-All-Policies” approach requires establishing cross-departmental leadership to develop and oversee an overarching social connection strategy. Diversity, equity, inclusion, and accessibility are critical components of any such strategy. It must recognize that everyone is impacted by social connection, but that some groups may be more disproportionately impacted by some policies. Thus, policymakers must give focused attention to reducing disparities in risk and ensuring equal access to benefits.



The Six Pillars
to Advance
Social Connection

Pillar 3

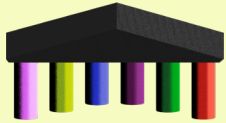
Mobilize the Health Sector

- **Train health care providers**
- **Assess and support patients**
- **Expand public health surveillance and interventions**

Social connection is an independent protective factor, and social isolation and loneliness are independent risk factors for several major health conditions, including cardiovascular disease, dementia, depression, and premature mortality from all causes.¹²⁸ While all organizations have a role in addressing social connection, mobilizing the health sector—most notably health care delivery systems and the public health community—is a core pillar of the National Strategy.

It is critical that we invest in health care provider education on the physical and mental health benefits of social connection, as well as the risks associated with social disconnection. We must also create systems that enable and incentivize health care providers to educate patients as part of preventative care, assess for social disconnection, and respond to patients' health-relevant social needs. This can be accomplished both within the medical system and by linking individuals to community-based organizations that can provide necessary support and resources specifically designed to increase social connection.^{10,285,304,305}

Public health organizations can help track the community prevalence of social disconnection, promote individual best practices, and advance community solutions. By integrating social connection into primary-, secondary-, and tertiary-level prevention and care efforts, we can strive to prevent forms of social disconnection in healthy individuals, mitigate forms of social disconnection early on before they become severe, and provide adequate support for those who are experiencing severe forms of social disconnection.



The Six Pillars
to Advance
Social Connection

Pillar 4

Reform Digital Environments

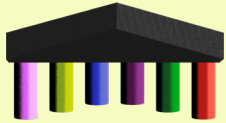
- **Require data transparency**
- **Establish and implement safety standards**
- **Support development of pro-connection technologies**

The exponential growth of technology crosses geographic borders, broadening communities and opening the world to those with limited access. It has had a tangible impact on how we live and work, from social connectivity, gaming, content sharing, and virality, to flexible work environments and communication.

But these benefits come at a cost. Technology can also distract us and occupy our mental bandwidth, make us feel worse about ourselves or our relationships, and diminish our ability to connect deeply with others. Some technology fans the flames of marginalization and discrimination, bullying, and other forms of severe social negativity.

We must decide how technology is designed and how we use it. There are many ways to minimize harms. We must learn more by requiring data transparency from technology companies. This will enable us to understand their current and long-term effects on social connection, and implement and enforce safety standards (such as age-related protections for young people) that ensure products do not worsen social disconnection. In a positive vein, we should support the development of pro-connection technology to promote healthy social connection, create safe environments for discourse, and safeguard the well-being of users. This should be coupled with the public's greater ability to avoid or limit their own uses.

Finally, we need to recognize the unique aspects of digital technology that may differ from other modes of connecting socially. The modality of delivery matters, and should be strategically and explicitly acknowledged and evaluated.



The Six Pillars
to Advance
Social Connection

Pillar 5

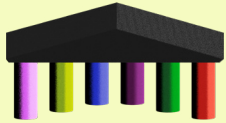
Deepen our Knowledge

- **Develop and coordinate a national research agenda**
- **Accelerate research funding**
- **Increase public awareness**

This Surgeon General's Advisory outlines a summary of the evidence about how social connection and disconnection impact individual and community health and overall well-being. The totality of this evidence illustrates that urgent action is needed, including additional research to further advance our understanding of the causes and consequences of social connection, trends, populations at risk, and the effectiveness of interventions and other efforts to advance connection.

As a next step, relevant stakeholders, including government, policymakers, practitioners, and researchers, should work together to establish a research agenda focused on addressing identified gaps in the evidence base, fund research at levels commensurate with the seriousness of the problem, and create a plan to increase research coordination. Deepening our knowledge of social connection and disconnection also requires us to further refine and expand our capacity to measure these states via agreed upon standardized metrics. As individuals, communities, institutions, and governments implement the pillars of the National Strategy, consistent measurement will be critical to better understanding the driving forces of connection and disconnection, and how we can be more effective and efficient in addressing these states.

Public understanding of the essential role of social connection in health and well-being is critical to this pillar. Social connection should be included as a key driver of health in formal health education, from elementary to professional school curricula. It is also imperative that we share this knowledge beyond health professionals. Public awareness and education of the drivers and solutions of connection and disconnection will be a critical foundation to support sustained policy and cultural change.



The Six Pillars
to Advance
Social Connection

Pillar 6

Cultivate a Culture of Connection

- **Cultivate values of kindness, respect, service, and commitment to one another**
- **Model connection values in positions of leadership and influence**
- **Expand conversations on social connection in schools, workplaces, and communities**

A culture of connection is vital to creating the changes needed in society. While formal programs and policies can be impactful, the informal practices of everyday life—the norms and culture of how we engage one another—significantly influence social connection. These shared beliefs and values drive our individual and collective behaviors that then shape programs and policies. We cannot be successful in the other pillars without this underlying culture of connection.

Such a culture of connection rests on core values of kindness, respect, service, and commitment to one another. Everyone contributes to the collective culture of social connection by regularly practicing these values. Advancing this culture requires individuals and leaders to seek opportunities to do so in public and private dialogue, schools, workplaces, and in the forces that shape our society like media and entertainment, among others. Behaviors are both learned from and reinforced by the groups we participate in and the communities we are a part of. Thus, the more we observe others practicing these values, the more they will be reinforced in us.

All types of leaders and influencers (national, local, political, cultural, corporate, etc.) can use their voices to underscore these core values and model healthy social connection and dialogue. Media and entertainment shape our beliefs through the depiction of stories. These narratives can help individuals see themselves in stories and help to reduce stigma, thus enabling more connection. Further, our institutions should invest time, attention, and resources in ways that demonstrate these values.

Recommendations for Stakeholders to Advance Social Connection

All of us as individuals, organizations, and communities can play a role in increasing and strengthening connection across the nation. This section details recommendations for how each stakeholder group can take action to advance social connection.

- 55** National, Territory, State, Local, and Tribal Governments
- 56** Health Workers, Health Care Systems, and Insurers
- 57** Public Health Professionals and Public Health Departments
- 58** Researchers and Research Institutions
- 59** Philanthropy
- 60** Schools and Education Departments
- 61** Workplaces
- 62** Community-Based Organizations
- 63** Technology Companies
- 64** Media and Entertainment Industries
- 65** Parents and Caregivers
- 66** Individuals

What National, Territory, State, Local, and Tribal Governments Can Do

- **Designate social connection a priority** by including it in public health and policy agendas, providing critical resources, and creating strategies to strengthen social connection and community that include clear benchmarks, measurable outcomes, and periodic evaluation.
- **Establish a dedicated leadership position** to work across departments, convene stakeholders, and advance pro-connection policies.
- **Utilize a “Connection-in-All-Policies” Approach** that examines policies across sectors, including health, education, labor, housing, transportation, and the environment, and looks to identify and remedy policies that drive disconnection while advancing those that drive connection. Periodically, evaluate and revise existing policies and programs, and when appropriate, propose new policies to advance social connection. Examples of pro-connection policies include paid leave, which enables individuals to spend time with family during critical early life stages, and increased access to public transit, which allows individuals to physically connect more easily.
- **Monitor and regulate technology** by establishing transparency, accountability, safety, and consumer protections to ensure social health and safety (including for minors) and the ability for independent researchers to evaluate the impact of technology on our health and well-being.³⁰⁶
- **Create a standardized national measure or set of measures for social connection and standardized definitions for relevant terms**, in collaboration with the research community. Implement consistent, regular measurement of social connection metrics in current national health surveys, with the ability to capture the level of granularity needed to guide strategic decision-making, planning, and evaluation of strategies.
- **Prioritize research funding** such that research is supported at levels commensurate with the societal impact of loneliness, social isolation, and other forms of social disconnection, and enhance collaboration with researchers to improve research coordination.
- **Launch sustained and inclusive public education and awareness efforts**, including the development of national guidelines for social connection.³⁰⁷
- **Invest in social infrastructure at the local level**, including the programs, policies, and physical elements of a community that facilitate bringing people together.
- **Incentivize the assessment and integration of social connection** into health care delivery and public health, including through public insurance coverage and other government funding mechanisms.
- **Increase evaluation and oversight** of policy and programmatic outcomes from public institutions, programs, and services, and make the results available through public facing reports, databases, and other mechanisms. This will help improve existing policies and programs, demonstrate transparency, and increase public trust in institutions.

What Health Workers, Health Care Systems, and Insurers Can Do

- Explicitly **acknowledge social connection as a priority** for health.
- **Provide health professionals with formal training** and continuing education on the health and medical relevance of social connection and risks associated with social disconnection (e.g., isolation, loneliness, low social support, social negativity), as well as advanced training on prevention and interventions.
- Insurance companies should **provide adequate reimbursement** for time spent assessing and addressing concerns about social disconnection (e.g., isolation, loneliness, low social support, poor relationship quality), and incorporate these measurements into value-based payment models.
- **Facilitate inclusion of assessment results in electronic health records.**
- Providers and insurers can **educate and incentivize patients to understand the risks** of, and take action to address, inadequate social connection, with a particular focus on at-risk individuals, including but not limited to those with physical or mental health conditions or disabilities, financial insecurity, those who live alone, single parents, and both younger and aging populations.
- **Integrate social connection into patient care** in primary-, secondary-, and tertiary-level care settings by:
 - Actively assessing patients' level of social connection to identify those who are at increased risk or already experiencing social disconnection and evaluate the level of necessary supports.³⁰⁵
 - Educating patients about the benefits of social connection and the risk factors for social disconnection as part of primary prevention.
 - Leveraging interventions that provide psychosocial support to patients, including involving family or other caregivers in treatment, group therapies, and other evidence-based options.³⁰⁴
- **Work with community organizations** to create partnerships that provide support for people who are at risk for, or are struggling with, loneliness, isolation, low social support, or poor-quality relationships.
- Create opportunities for clinicians to partner with researchers to **evaluate the application of evidence-based assessment tools and interventions within clinical settings**, including evaluating the efficacy of applications for specific populations.¹⁰

What Public Health Professionals and Public Health Departments Can Do

- **Establish social connection as a priority health indicator and social determinant of health** with the goal of improving health and well-being through programs, education, research, and promotion of healthy lifestyles across the lifespan.
- **Evaluate, develop, and implement sustainable interventions and strategies** (e.g., programs, campaigns, tools, partnerships) across the social-ecological model to promote greater connection and prevent social disconnection.
- **Develop, lead, and support public education programs, awareness campaigns, and health professional training programs** focused on the health impacts of social disconnection. Integrate social connection as a key component of health promotion and wellness programs focused on related health issues (e.g., suicide, workplace burnout, substance use).^{308,309}
- **Consistently and regularly track social connection** using validated metrics (such as the Berkman-Syme Social Network Index, UCLA Loneliness Scale), and validate new measures to capture the full complexity of social connection to guide strategic decision-making, planning, and evaluation of strategies.
- **Study and support research on the causes of social disconnection.**

What Researchers and Research Institutions Can Do

- **Establish social connection as a research priority** and support researchers in this field with time, space, and funding.³²
- **Develop a cross-disciplinary research agenda** including basic, translational, evaluation, and dissemination research that prioritizes systematically mapping outstanding evidence gaps to ensure adequate evidence across all levels of the social-ecological model, sectors of society, and the life course, with attention to inclusion, diversity, equity, access, and modality considerations. This research should include investigations into:
 - The root causes of social disconnection, including how causal mechanisms vary across age, income, culture, race, ethnicity, gender identity, sexual orientation, and health status to advance equity in social well-being for all members of the community, and ensure research is inclusive of under-represented groups.^{10,19}
 - What social connection indicators may intersect or act independently, additively, or synergistically to influence risk and resilience for health and other societal outcomes.
 - Fuller examinations of age, developmental, and cohort processes that may influence the onset and progression of disease and other adverse outcomes.
 - Rigorous evaluation of technology's evolving impact on social connection.
 - The effectiveness, efficiency, and acceptability of prevention, intervention, and dissemination approaches.
- Additional examinations of individual and societal effects of social connection within and beyond health outcomes, including indicators of well-being (e.g., wider community participation, quality of life), prosperity (e.g., educational attainment, employment, economic mobility), and public safety.
- **Develop and establish additional standardized national and local measures** that are regularly evaluated and can be used across basic research, clinical assessment, population surveillance, intervention evaluation, and other contexts.
- **Improve research coordination**, including the development of an accessible evidence database, a way to coordinate utilization of evidence among researchers, and a comprehensive way to track connection and community metrics over time.

What Philanthropy Can Do

- **Fund new programs and invest in existing successful programs** that advance social connection among individuals and within communities, including those that aim to prevent and treat social isolation and loneliness and those that reach populations at highest risk.
- Because social connection can be advanced through programs designed to support other outcomes (e.g., population health, community resilience, public safety, educational attainment, economic progress) funders should **evaluate cross-sector programs for their impact on social connection** by adding social connection and relationship-building as indicators of grantee success.
- **Provide support for adequate evaluation, reporting, and knowledge sharing** about the effectiveness of interventions designed to reduce loneliness and isolation and improve social connection.
- **Convene stakeholders** working to understand or strengthen social connection.
- **Invest in efforts to increase public awareness** and dissemination of findings.

What Schools and Education Departments Can Do

School administrators and leaders, boards of education, boards of trustees, teachers, parent teacher associations, state departments of education, and online learning platforms can all play a role.

- **Develop a strategic plan for school connectedness and social skills with benchmark tracking.**

This could include providing regular opportunities and spaces for students to develop social skills and strengthen relationships, and the adoption of evidenced-based practices leveraging elements of the CDC Framework: Whole School, Whole Community, Whole Child.³¹⁰ Strategies to enhance connectedness may include promoting quality adult support from family and school staff, peer-led programs, and partnerships with key community groups.

- **Build social connection into health curricula,** including up-to-date, age-appropriate information on the consequences of social connection on physical and mental health, key risk and protective factors, and strategies for increasing social connection.
- **Implement socially based educational techniques** such as cooperative learning projects that can improve educational outcomes as well as peer relations.³¹¹
- **Create a supportive school environment** that fosters belonging through equitable classroom management, mentoring, and peer support groups that allow students to lean on one another and learn from each other's experiences.

What Workplaces Can Do

- **Make social connection a strategic priority in the workplace** at all levels (administration, management, and employees).⁴⁸
- **Train, resource, and empower leaders and managers** to promote connection in the workplace and implement programs that foster connection. Assess program effectiveness, identify barriers to success, and facilitate continuous quality improvement.
- **Leverage existing leadership and employee training, orientation, and wellness resources** to educate the workforce about the importance of social connection for workplace well-being, health, productivity, performance, retention, and other markers of success.
- **Create practices and a workplace culture** that allow people to connect to one another as whole people, not just as skill sets, and that fosters inclusion and belonging.
- **Put in place policies that protect workers' ability to nurture their relationships outside work** including respecting boundaries between work and non-work time, supporting caregiving responsibilities, and creating a culture of norms and practices that support these policies.
- **Consider the opportunities and challenges posed by flexible work hours and arrangements** (including remote, hybrid, and in-person work), which may impact workers' abilities to connect with others both within and outside of work. Evaluate how these policies can be applied equitably across the workforce.

What Community-Based Organizations Can Do

Community-based organizations include, but are not limited to, membership-based organizations, civic groups, arts and education groups, faith-based organizations, direct service providers, and youth-led organizations. Regardless of whether the mission of a community-based organization is focused on social connection, every organization can promote stronger social connection.

- **Create opportunities and spaces for inclusive social connection** and establish programs that foster positive and safe relationships, including among individuals of different ages, backgrounds, viewpoints, and life experiences.
- **Embed social connection** in internal policies, practices, programs, and evaluations.
- **Actively seek and build partnerships** with other community institutions (schools, health organizations, workplaces) to support those experiencing loneliness and social isolation, and to create a culture of connection in the broader community.
- **Advance public education and awareness efforts** to introduce and elevate the topic of social connection and disconnection among community members.
- **Create and provide education, resources, and support programs** for community members and key populations such as parents, youth, and at-risk populations. These could include community-wide social events, volunteering and community service activities, network-building professional development, and organizational opportunities for involvement by the community.
- **Foster a culture of connection in the broader community** by highlighting examples of healthy social connection and leading by example.

What Technology Companies Can Do

- **Be transparent with data** that illustrates both the positive and negative impacts of technology on social connection by sharing long-term and real-time data with independent researchers to enable a better understanding of technology's impact on individuals and communities, particularly those at higher risk of social disconnection.
- **Support the development and enforcement of industry-wide safety standards** with particular attention to social media, including age-appropriate protections and identity assurance mechanisms, to ensure safe digital environments that enable positive social connection, particularly for minors.
- **Intentionally design technology that fosters healthy dialogue and relationships**, including across diverse communities and perspectives. The designs should prioritize social health and safety as the first principle, from conception to launch to evaluation. This also means avoiding design features and algorithms that drive division, polarization, interpersonal conflict, and contribute to unhealthy perceptions of one's self and one's relationships.

What Media and Entertainment Industries Can Do

- **Create content that models and promotes positive social interactions**, healthy relationships, and reinforces the core values of connection: kindness, respect, service, and commitment to one another.
- **Utilize storylines and narratives** in film, television, and entertainment to provide messages that broaden public awareness of the health benefits of social connection and the risks of social disconnection.
- **Ensure that content related to social connection is scientifically accurate** in collaboration with the scientific community.
- **Avoid content and products that inadvertently increase disconnection or stigma around social disconnection**, recognizing the impact content can have on increasing societal distrust, polarization, and perpetuating harmful stereotypes.

What Parents and Caregivers Can Do

Parents and caregivers play an important role in shaping the experience of social connection. Although focused on parents of young children, many of these recommendations can apply more broadly to all types of caregivers.

- **Invest in your relationship with your child or loved one** by recognizing that strong, secure attachments are protective and a good foundation for other healthy relationships.
- **Model healthy social connection**, including constructive conflict resolution, spending time together, staying in regular contact with extended family, friends, and neighbors, setting time aside for socializing away from technology or social media, and participating in community events.
- **Help children and adolescents develop strong, safe, and stable relationships with supportive adults** like grandparents, teachers, coaches, counselors, and mentors.
- **Encourage healthy social connection with peers** by supporting individual friendships, as well as participation in structured activities such as volunteering, sports, community activities, and mentorship programs.
- **Be attentive to how young people spend their time online.** Delay the age at which children join social media platforms and monitor and decrease screen time in favor of positive, in-person, connection building activities.
- Identify and aim to **reduce behaviors and experiences that may increase the risk for social disconnection**, including bullying and excessive or harmful social media use.
- **Talk to your children about social connection regularly** to understand if they are struggling with loneliness or isolation, to destigmatize talking about these feelings, and to create space for children to share their perspective and needs.
 - Look out for potential warning signs of loneliness and social isolation, such as increases in time spent alone, disproportionate online time, limited interactions with friends, or excessive attention-seeking behavior.^{312,313}
 - Connect youth to helpers like counselors, educators, and health care providers if they are struggling with loneliness, isolation, or unhealthy relationships.

What Individuals Can Do

- **Understand the power of social connection and the consequences of social disconnection** by learning how the vital components (structure, function, and quality) can impact your relationships, health, and well-being.
- **Invest time in nurturing your relationships** through consistent, frequent, and high-quality engagement with others. Take time each day to reach out to a friend or family member.
- **Minimize distraction during conversation** to increase the quality of the time you spend with others. For instance, don't check your phone during meals with friends, important conversations, and family time.
- **Seek out opportunities to serve and support others**, either by helping your family, co-workers, friends, or strangers in your community or by participating in community service.
- **Be responsive, supportive, and practice gratitude.**^{314,315} As we practice these behaviors, others are more likely to reciprocate, strengthening our social bonds, improving relationship satisfaction, and building social capital.
- **Actively engage with people of different backgrounds and experiences** to expand your understanding of and relationships with others, given the benefits associated with diverse connections.
- **Participate in social and community groups** such as fitness, religious, hobby, professional, and community service organizations to foster a sense of belonging, meaning, and purpose.
- **Reduce practices that lead to feelings of disconnection from others.** These include harmful and excessive social media use, time spent in unhealthy relationships, and disproportionate time in front of screens instead of people.
- **Seek help during times of struggle** with loneliness or isolation by reaching out to a family member, friend, counselor, health care provider, or the 988 crisis line.³¹⁶
- **Be open with your health care provider** about significant social changes in your life, as this may help them understand potential health impacts and guide them to provide recommendations to mitigate health risks.
- **Make time for civic engagement.** This could include being a positive and constructive participant in political discourse and gatherings (e.g., town halls, school board meetings, local government hearings).
- **Reflect the core values of connection** in how you approach others in conversation and through the actions you take. Key questions to ask yourself when considering your interactions with others include: How might kindness change this situation? What would it look like to treat others with respect? How can I be of service? How can I reflect my concern for and commitment to others?

Strengths and Limitations of the Evidence

Hundreds of independent studies across several scientific disciplines have examined the objective physical and mental health outcomes of social connection, social isolation, and loneliness for individuals.¹⁰ Despite the variability in conceptual and methodological approaches used in the research, these findings converge to demonstrate a robust and reliable association between social connection and health outcomes.^{37,127,128,317,318}

In addition to significant evidence of correlations between social connection and health, evidence supports a potential causal association. Using the Bradford Hill Guidelines,^{58,131} as well as some newer studies leveraging causal epidemiology³¹⁹⁻³²³ and experimental evidence in animals,^{324,325} together suggests a likely causal association between social isolation and a variety of poor health outcomes, including death. In humans, experimental evidence and intervention-based studies using randomized controlled trials also supports the likelihood of a causal association between broader social connection and better health and longer life expectancy.³⁰⁴

Importantly, there is evidence of a dose-response relationship between social connection and health.⁵⁹ This means that incremental increases in social connection correspond to decreases in risk to health, and conversely, decreases in social connection correspond to increases in risk. Evidence demonstrates this dose-response relationship exists for developmental stages across the lifespan, suggesting that social connection is a continuum from risk (when low) to protection (when high). This suggests social connection is relevant to all humans regardless of our individual positions along the risk trajectory.

Despite the strength of the evidence linking social connection to various health outcomes, certain gaps and limitations in research still exist. For example, few studies examine more than one social connection component (structural, functional, and quality indicators) in the same sample to disentangle the independent, additive, and synergistic effects. This complicates the measurement of an individual's risk associated with lack of social connection (e.g., social isolation, loneliness, social negativity) and confounds the understanding of the unique and complex pathways by which social connection influences health. Further, despite significant changes in the way in which we interact socially, many research studies do not distinguish remote or technology-mediated social connection from traditional means of connecting socially to determine equivalencies and to discern the influence on long-term health and mortality risk. Yet, despite these challenges, the extensive and replicated body of existing evidence offers a compelling basis for elevating the discourse on promoting social connection and addressing social disconnection with targeted public health policies, initiatives, and actions.

STRENGTHS AND LIMITATIONS OF THE EVIDENCE

In regard to the study of community-level benefits, significant differences exist in how researchers approach community-level social connection across scientific studies. For instance, variations exist in the indicators researchers use to define and measure social connection. While social cohesion, social capital, belonging, and trust are all indicators of connected communities, many studies examine only one of these concepts and few examine all of these to disentangle their relative influence or relate them directly to loneliness and isolation. Complicating matters, some studies also use different terms to refer to the same concept or use the same term to refer to different concepts. Much of this research is correlative in nature and necessitates further study, including among often underrepresented groups, in order to understand causative factors that produce community-level benefits.

Another layer of complexity is how different each community is along a multitude of dynamics and factors such as policies, customs, cultures, assets, challenges, demographics, and more. This variation means there is no “one-size-fits-all” approach to community connection, and it means that different communities will have different needs and desires. Despite all of these differences and complexities, there is strong evidence that points to social connection as an important factor in strengthening communities and community-level outcomes. While more research is needed, the evidence we do have suggests that enhancing community connection may help us address many important community and societal issues.

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Exhibit 6

VAERS Summary for COVID-19 Vaccines through 5/12/2023

All charts and tables below reflect the data release on 5/19/2023 from the VAERS website, which includes U.S. and foreign data, and is updated through: **5/12/2023**.

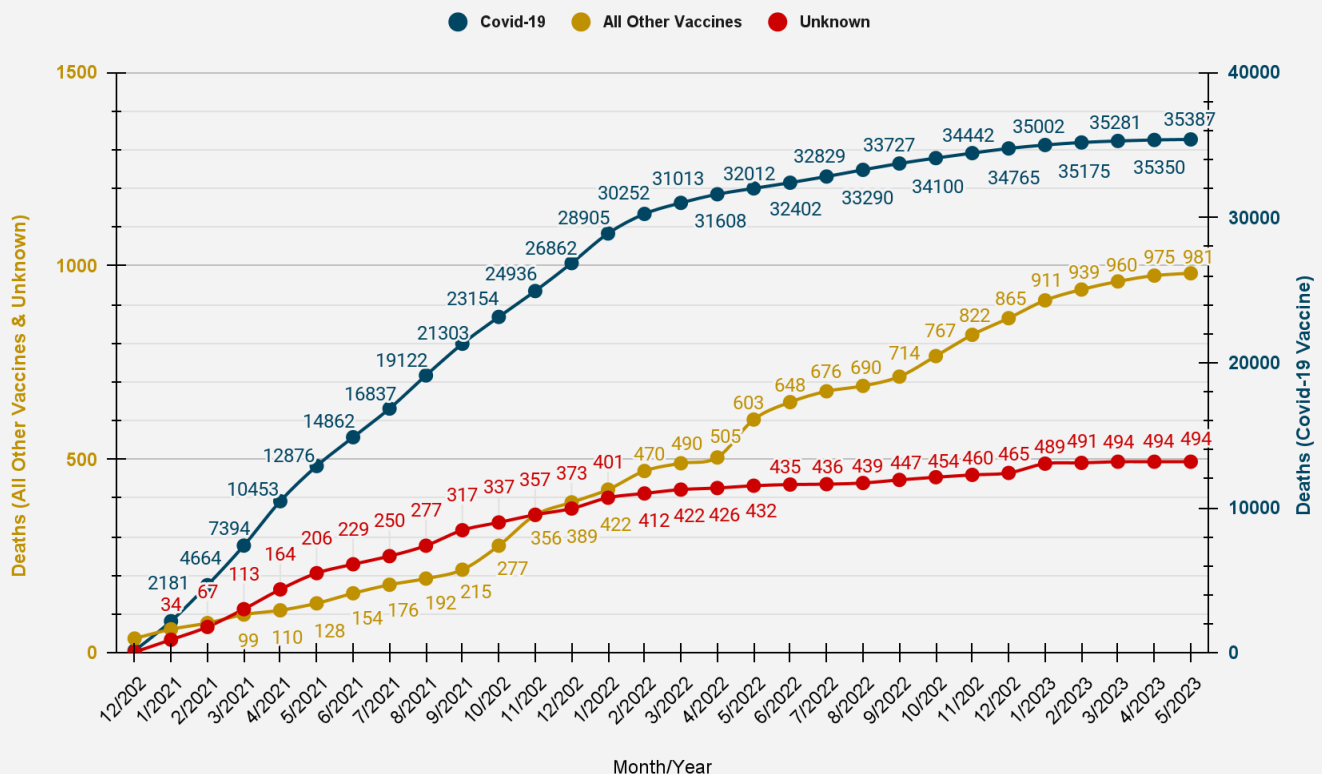
High-Level Summary	COVID19 vaccines (Dec'2020 - present)	All other vaccines 1990-present	US Data Only COVID19 vaccines (Dec'2020 - present)	US Data Only All other vaccines 1990-present
Number of Adverse Reactions	1,558,671	934,845	961,353	810,651
Number of Life-Threatening Events	37,613	15,164	14,419	10,278
Number of Hospitalizations	200,670	88,365	80,879	40,640
Number of Deaths	35,387*	10,314*	17,568	5,560
# of Permanent Disabilities after vaccination	66,046	22,131	16,915	13,611
Number of Office Visits	235,032	60,078	193,733	57,230
# of Emergency Room/Department Visits	150,604	217,239	115,970	207,172
# of Birth Defects after vaccination	1,261	224	585	119

*Note that the total number of deaths associated with the COVID-19 vaccines is more than **TRIPLE** the number of deaths associated with all other vaccines combined since the year 1990.

Deaths

Cumulative Reported Deaths After Vaccination - 2 Year Summary

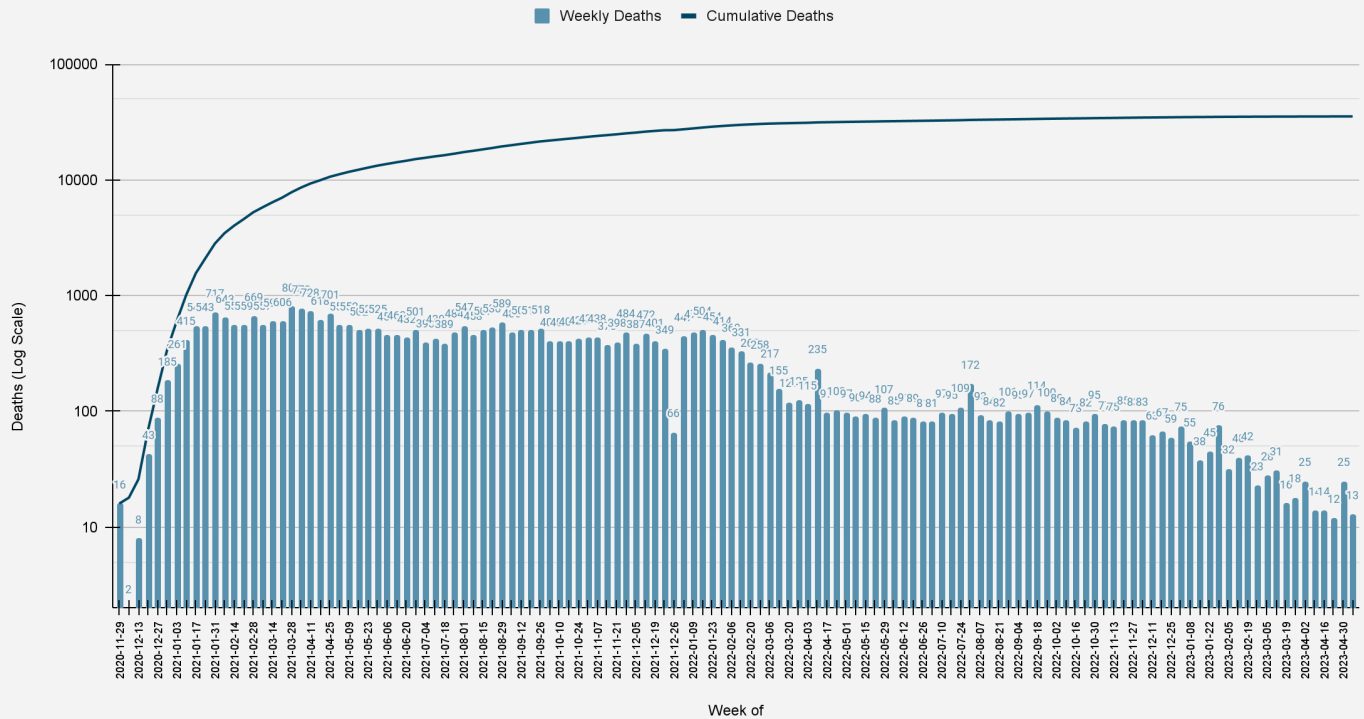
Data obtained from CDC's VAERS



[Unknowns separated from All Other Vaccines for greater clarity; in a majority of cases the Unknowns are actually Covid-19]

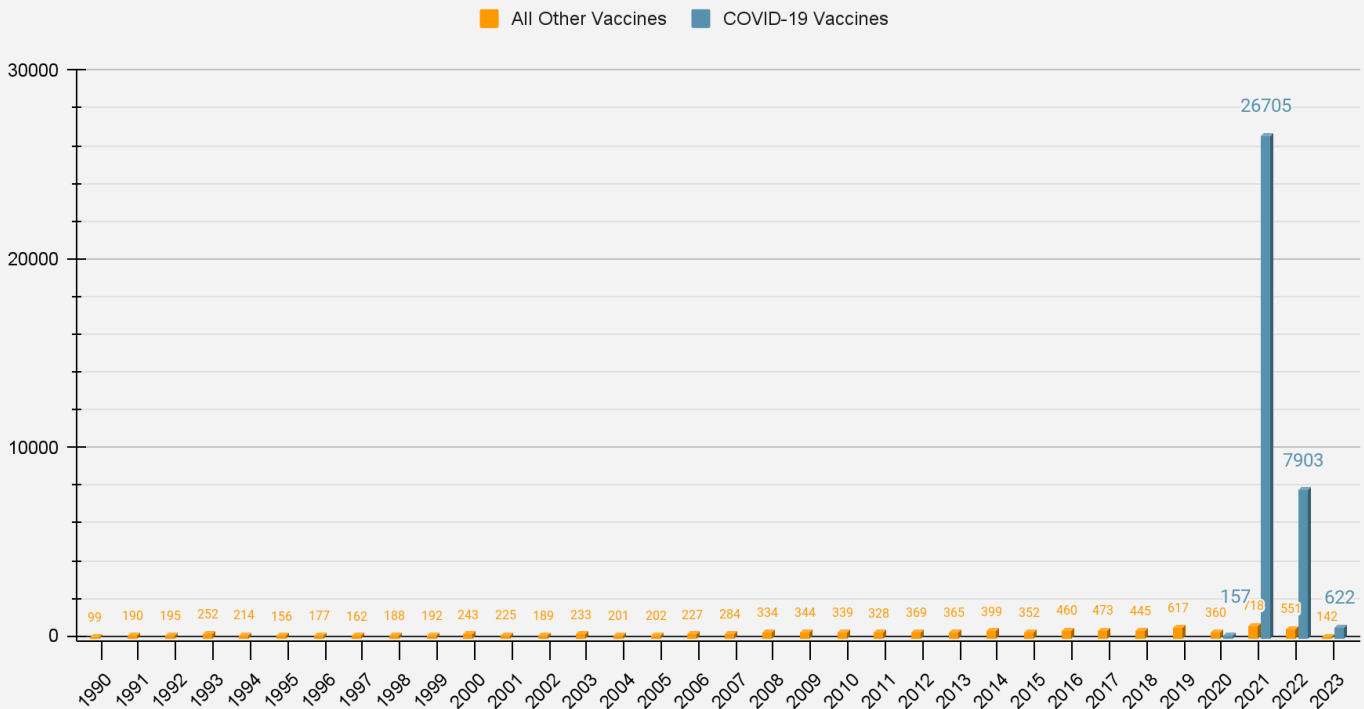
Reported Deaths by Week, COVID19 Vaccines

Data Obtained from CDC's VAERS



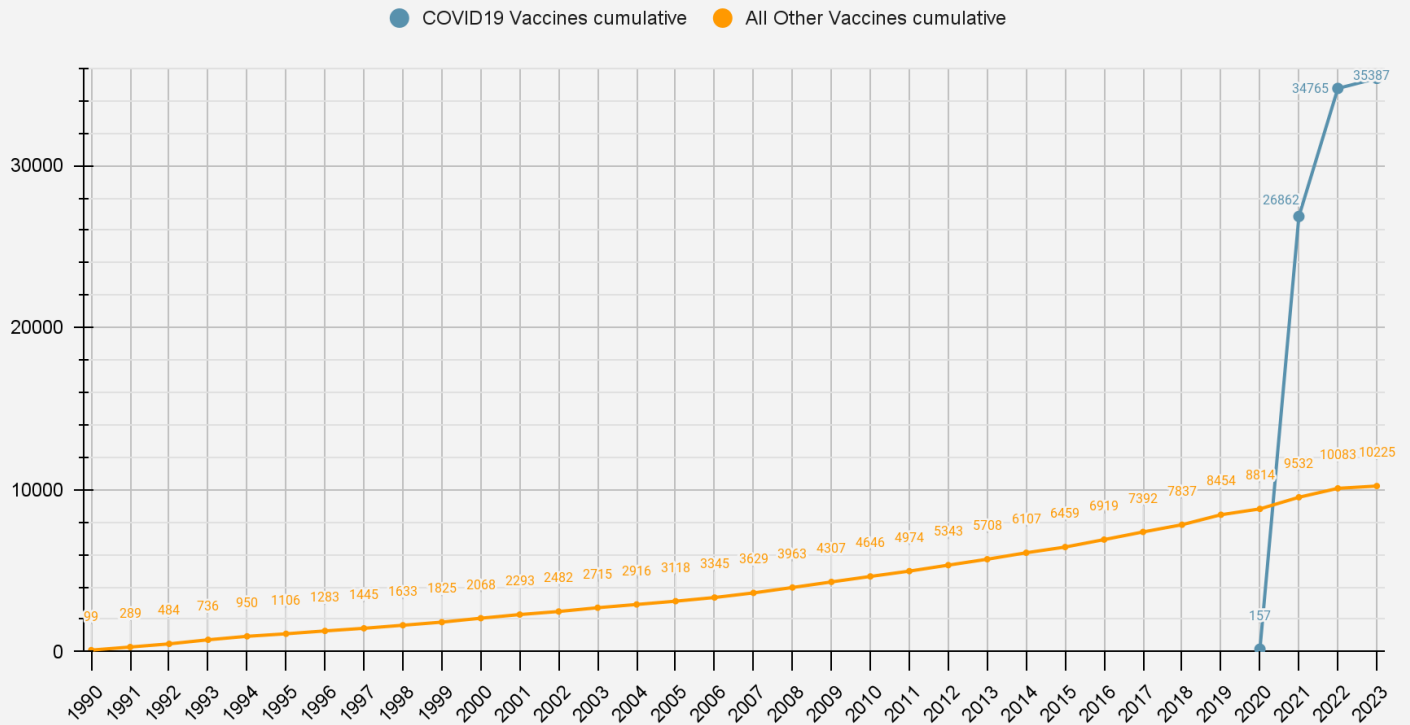
Reported Deaths by Year, COVID19 vs. All Other Vaccines

Data Obtained from CDC's VAERS



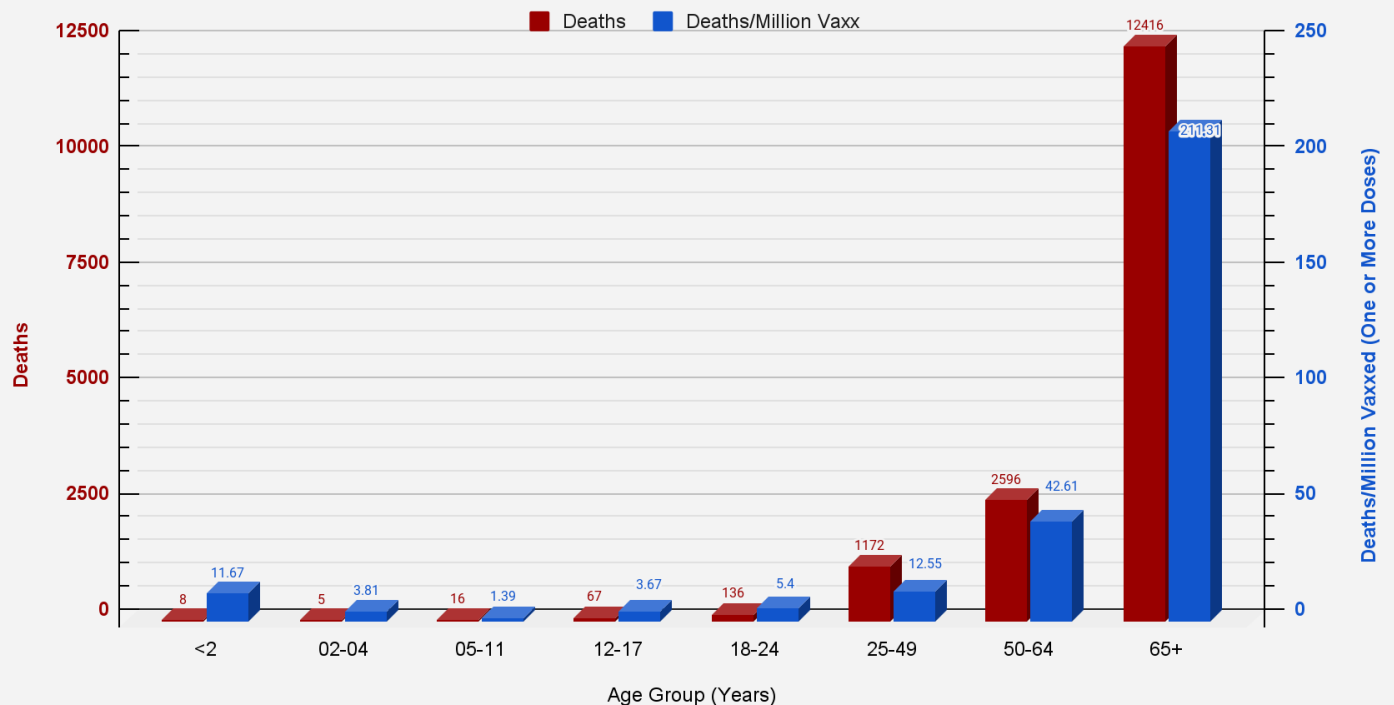
Reported Deaths by Year, COVID19 vs. All Other Vaccines, Cumulatively

Data Obtained from CDC's VAERS



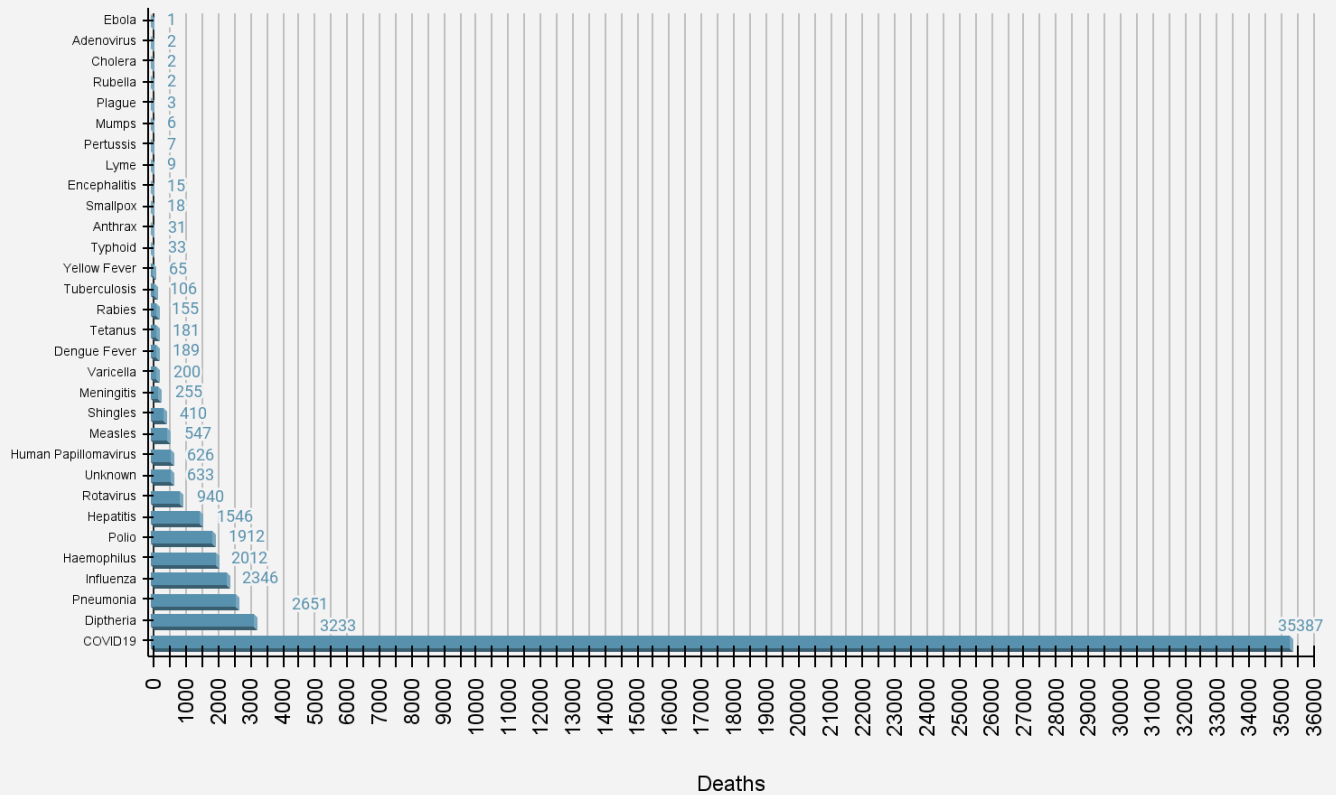
Age Stratification of Deaths After COVID-19 Vaccination US Data Only

Data Obtained from CDC's VAERS



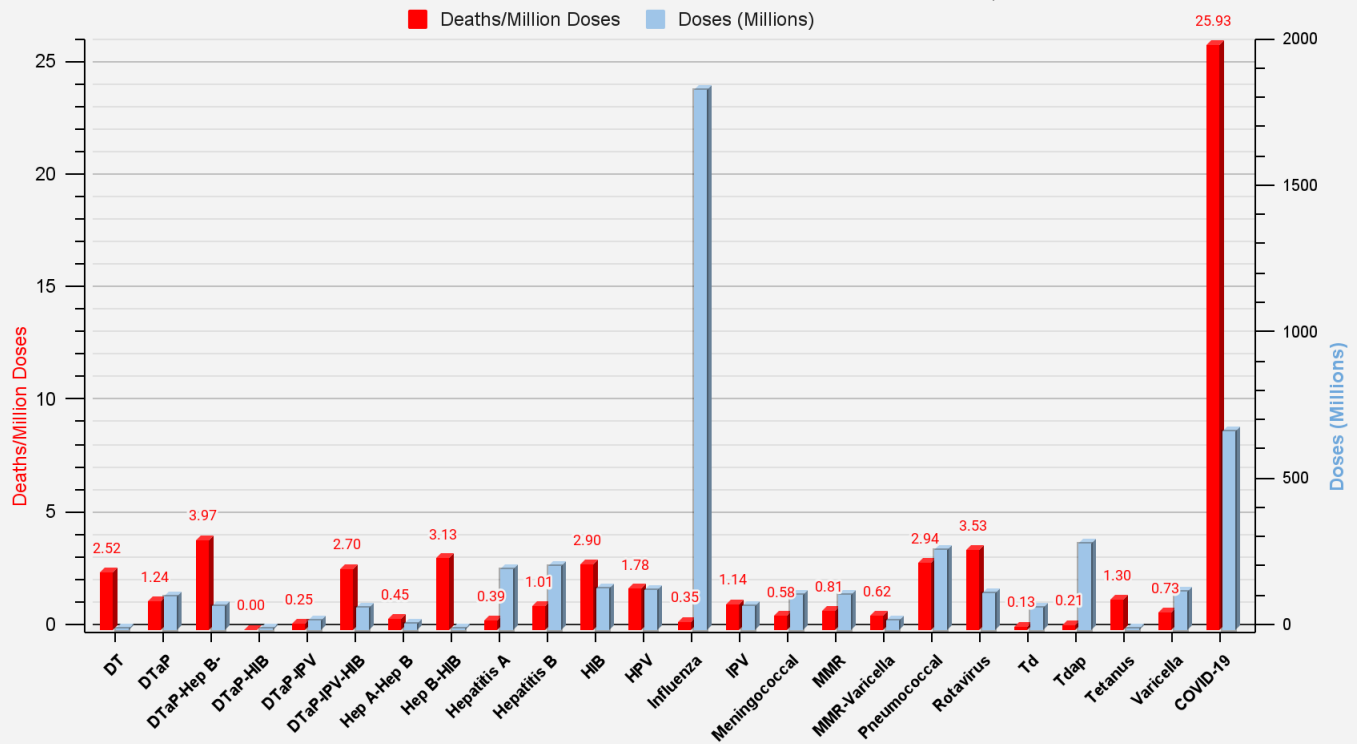
Reported Deaths By Vaccine Type, 1990-Present

Data Obtained from CDC's VAERS



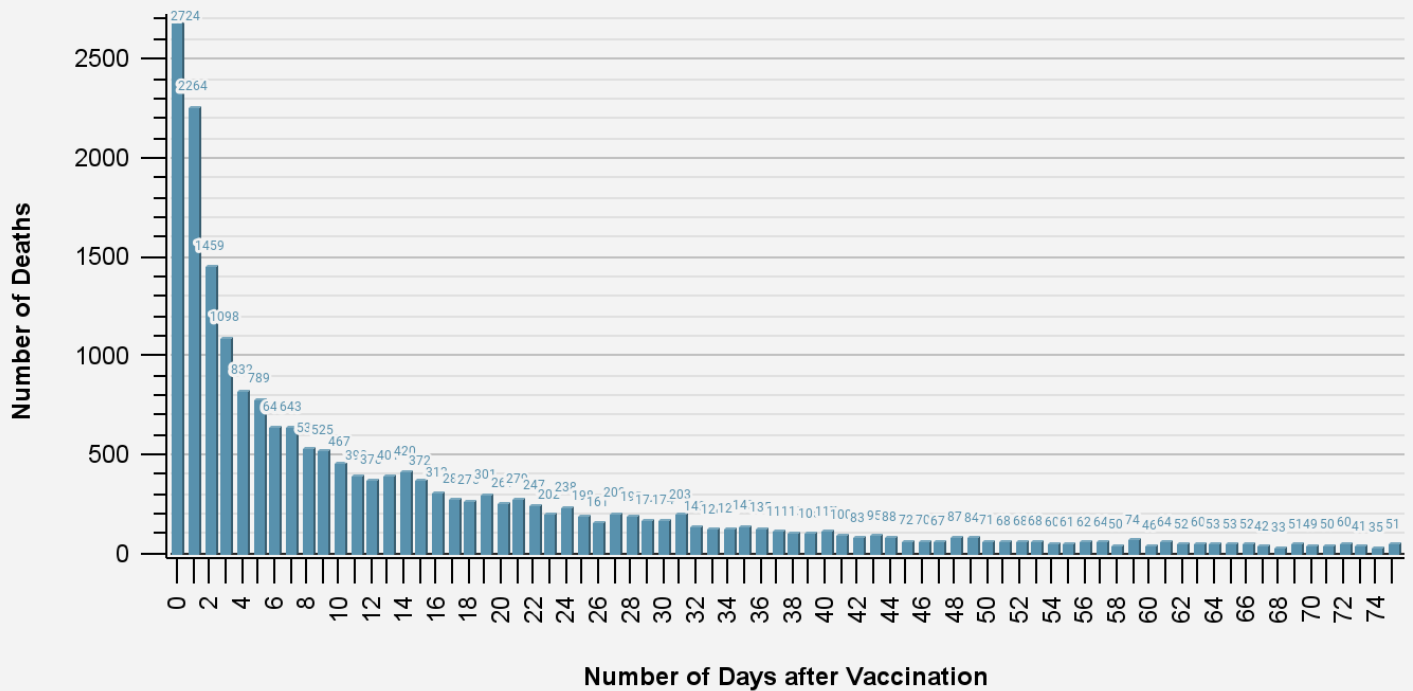
Deaths Per Million Doses (US Only) Traditional Vaccines (2006 - 2019), Covid-19 Vaccines (2020-Present)

Data Obtained from CDC's VAERS and NVICP data & statistics report



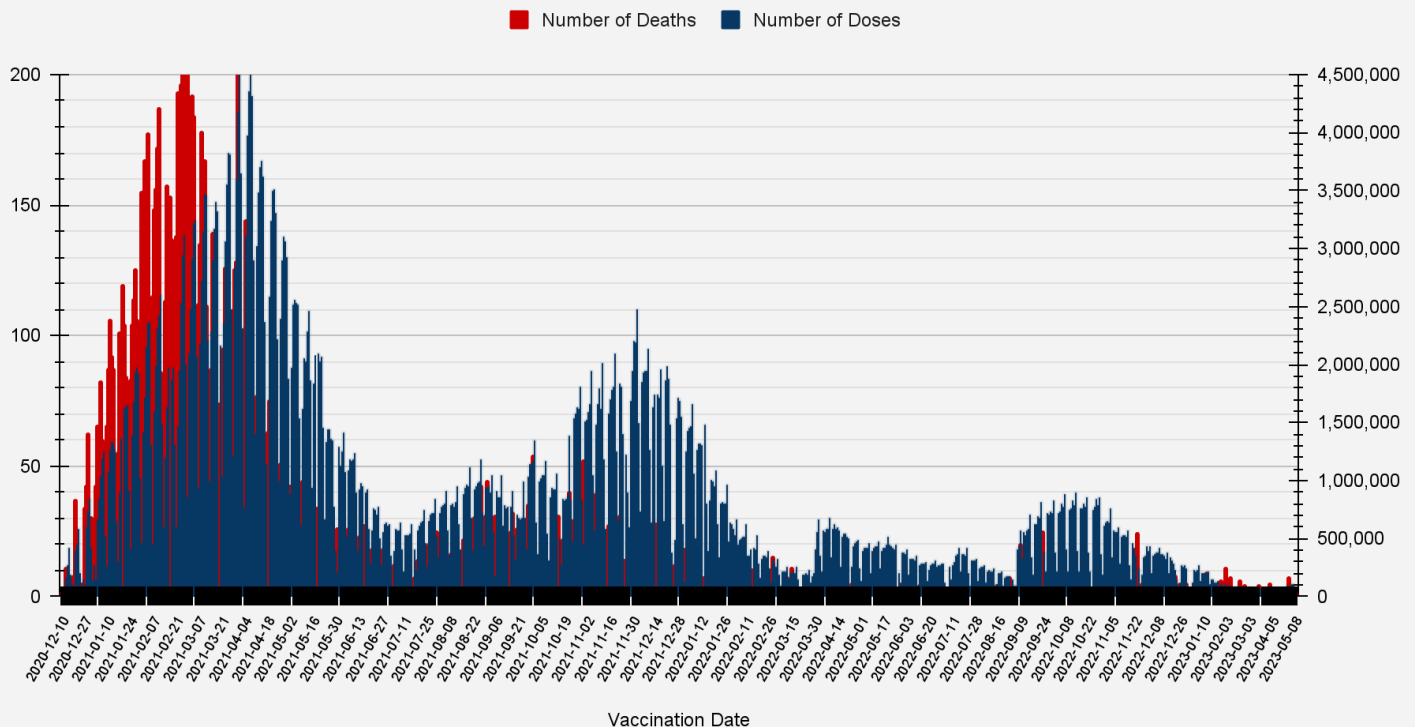
Number of Deaths by Days After COVID19 Vaccination

Data obtained from CDC's VAERS



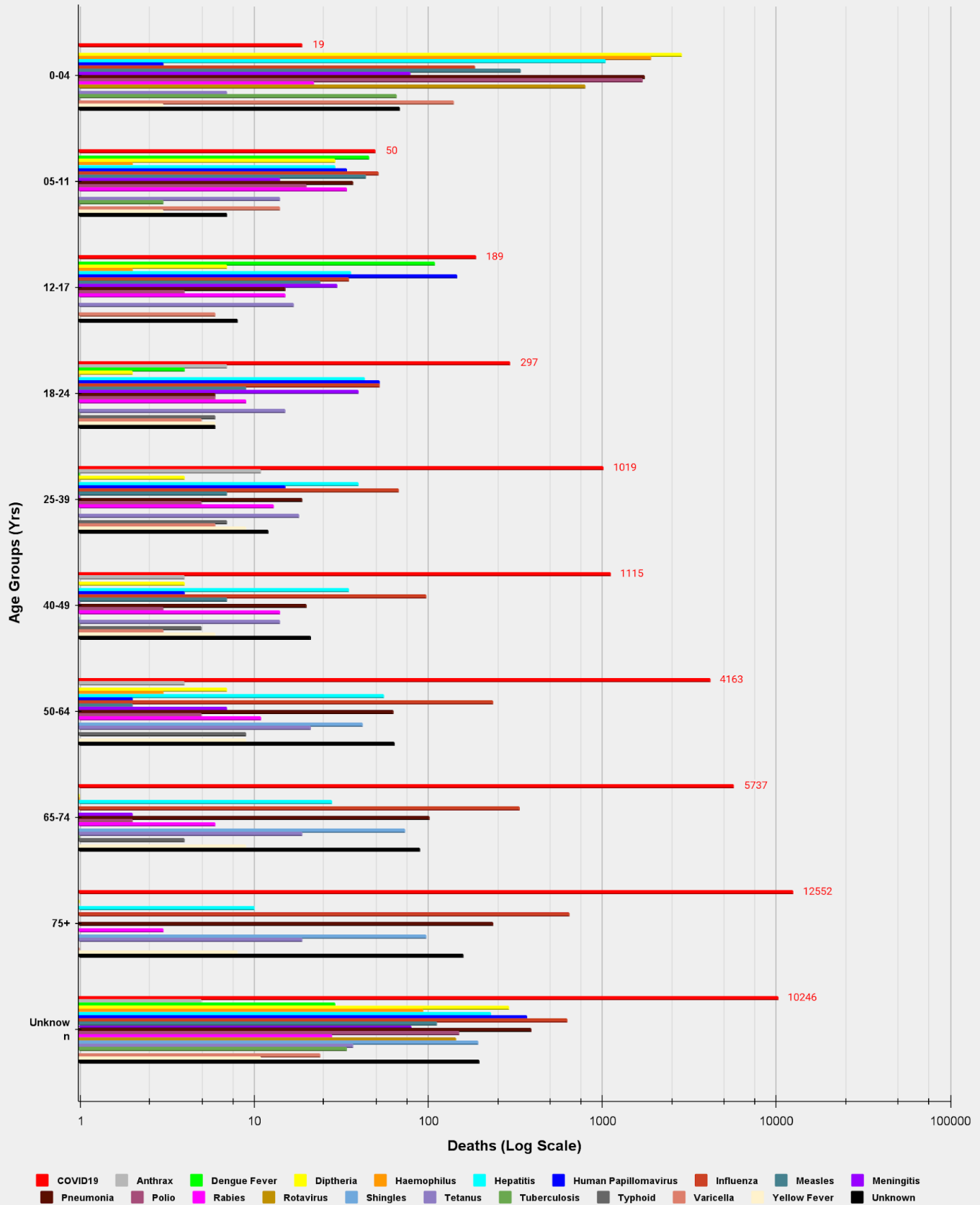
Reported Deaths Daily vs. Doses Administered for COVID19 Vaccines (US Data Only)

Data Obtained from CDC's VAERS & CDC



Age Stratification of Deaths By Vaccine Type (US+Foreign) (1990-Present)

Data Obtained from CDC's VAERS

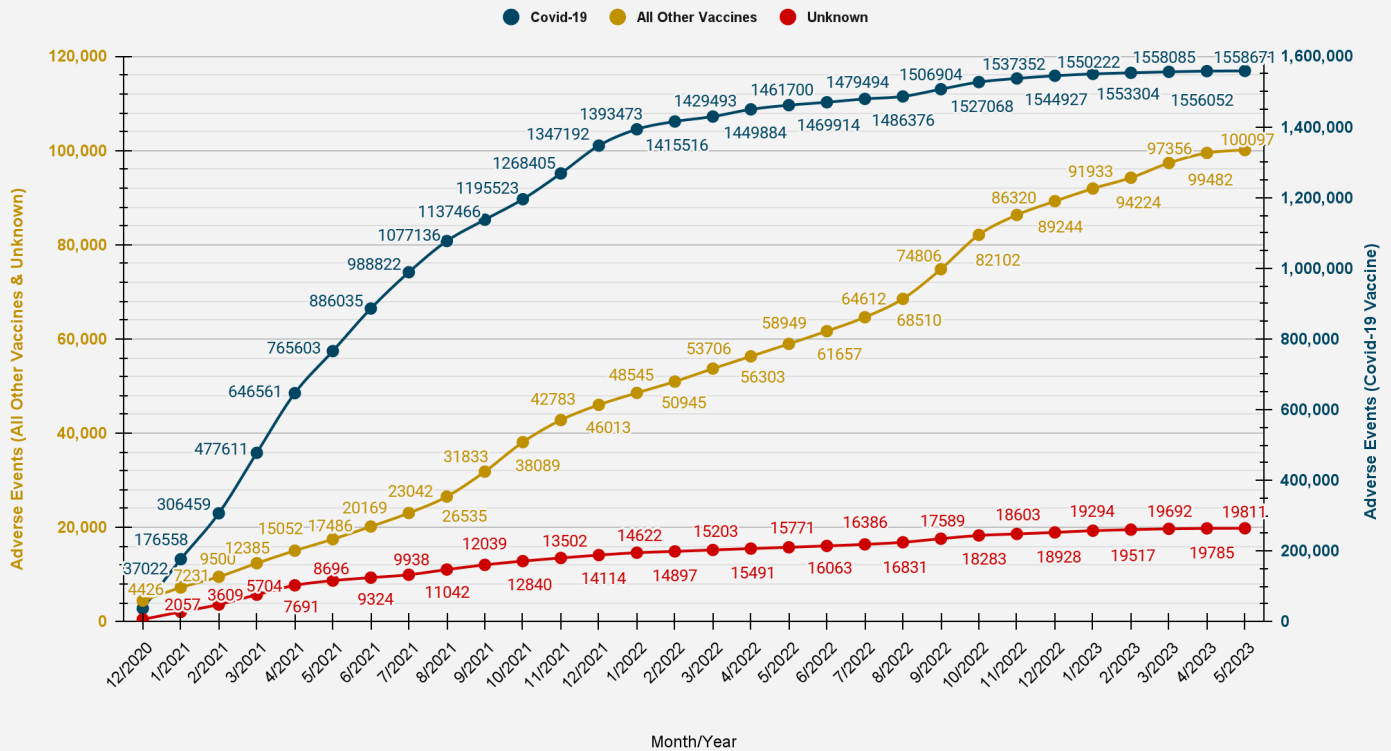


[Vaccines not included above (due to n < 20 overall deaths): Adenovirus, Cholera, Dengue Fever, Encephalitis, Ebola, Lyme, Mumps, Pertussis, Plague, Rubella, Smallpox]

Adverse Events

Cumulative Reported AEs After Vaccination - 2 Year Summary

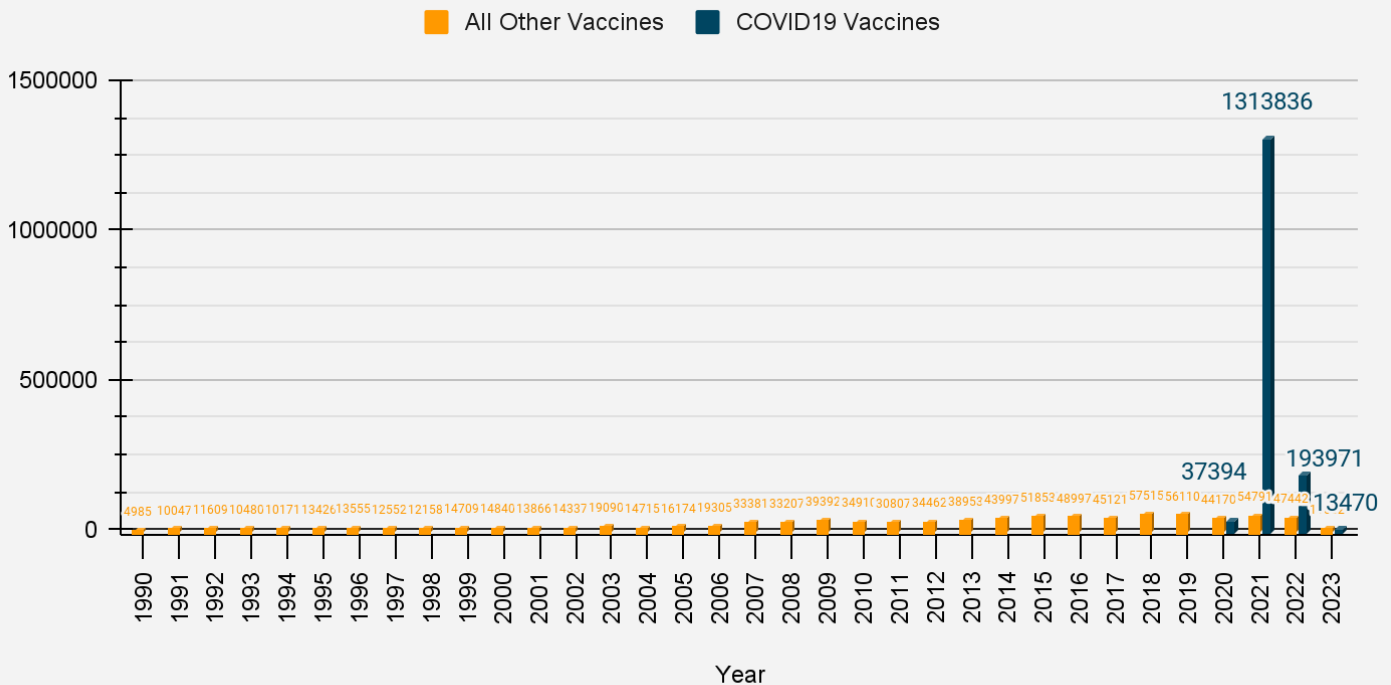
Data obtained from CDC's VAERS



[Unknowns separated from All Other Vaccines for greater clarity; in many cases the Unknowns are actually Covid-19]

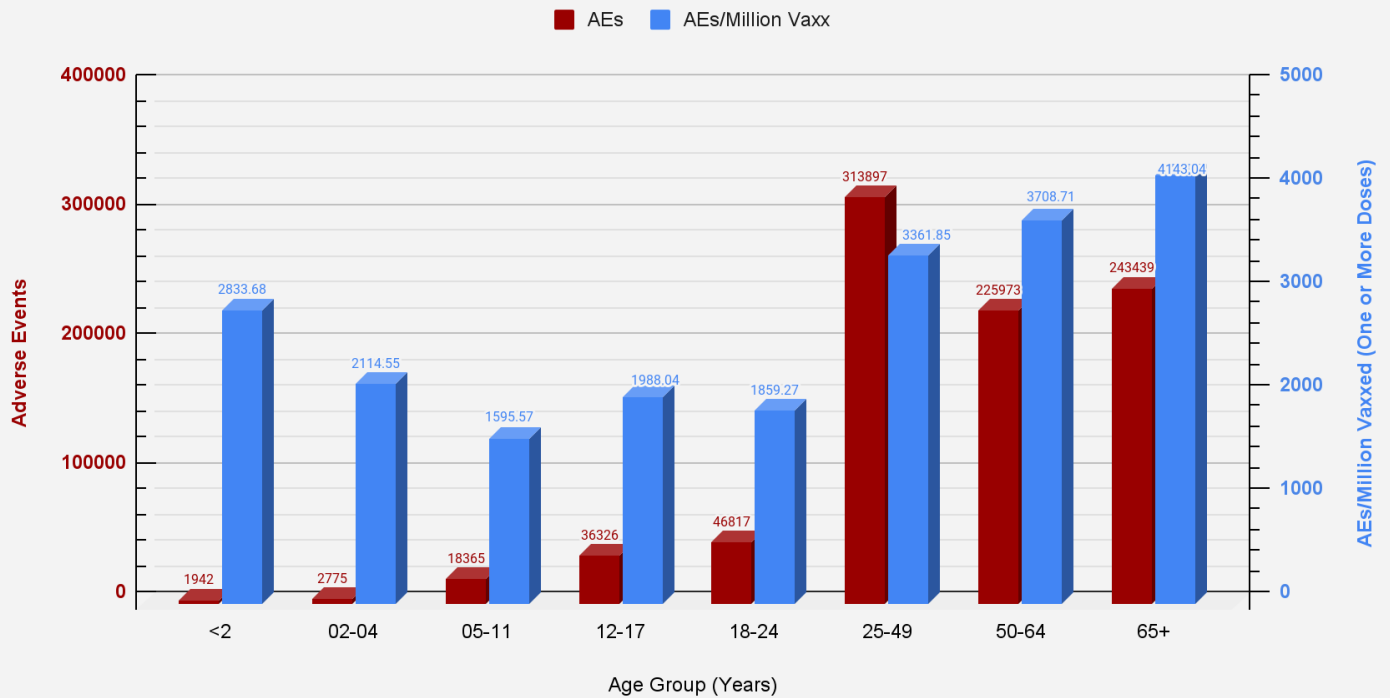
Reported Adverse Events by Year, COVID19 vs. All Other Vaccines

Data obtained from CDC's VAERS



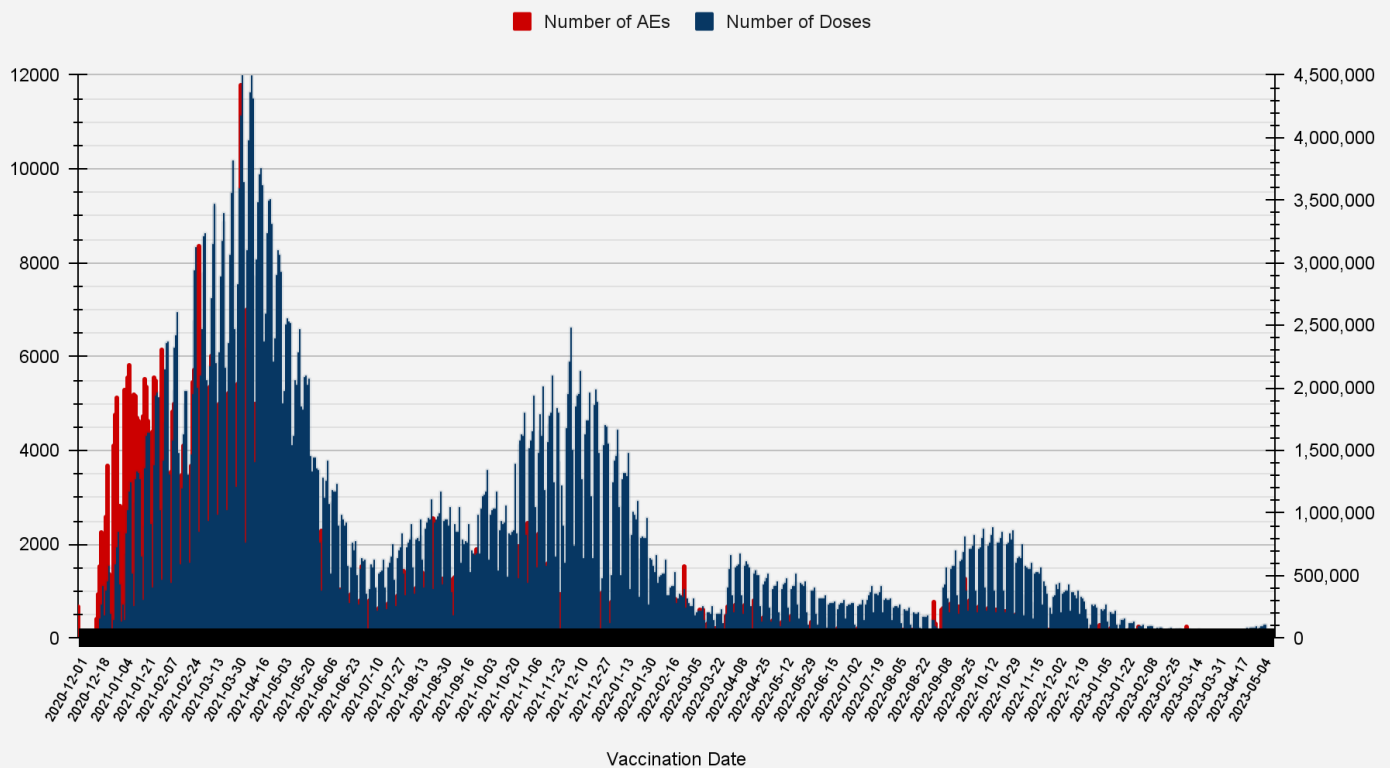
Age Stratification of Adverse Events After COVID-19 Vaccination US Data Only

Data obtained from CDC's VAERS



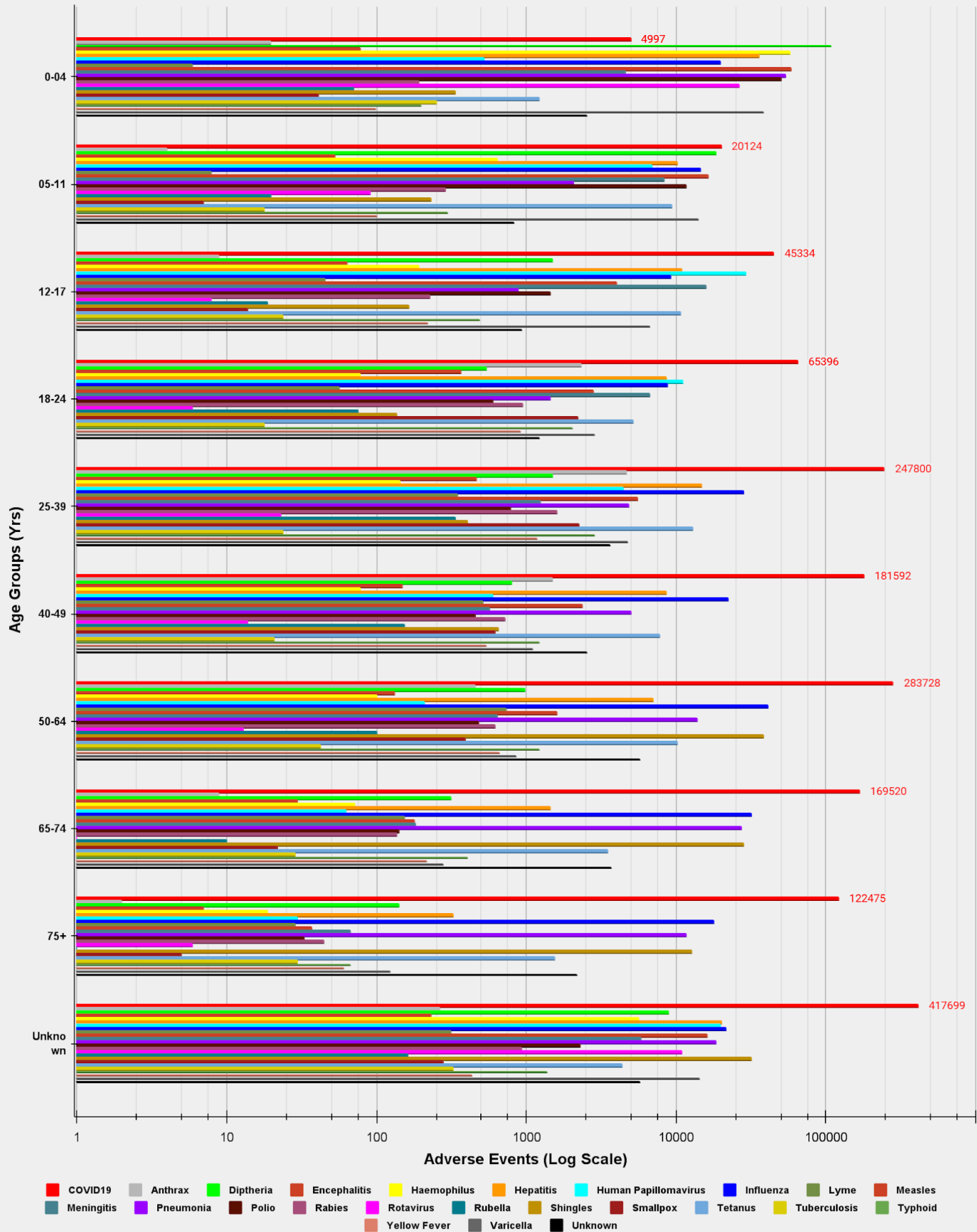
Reported Adverse Events Daily, COVID19 Vaccines vs. Doses Administered (US Data Only)

Data Obtained from CDC's VAERS



Age Stratification of Adverse Events By Vaccine Type (US+Foreign) (1990-Present)

Data Obtained from CDC's VAERS



[Vaccines not included above (due to n < 500 overall AEs): Adenovirus, Cholera, Dengue Fever, Ebola, Mumps, Pertussis, Plague]

Symptoms

The slide below was taken from an FDA document from October 22, 2020 and provides a list of possible adverse event outcomes related to the Covid-19 vaccines.

- Source: [Vaccines and Related Biological Products Advisory Committee October 22, 2020 Meeting Presentation](#)

FDA Safety Surveillance of COVID-19 Vaccines :
DRAFT Working list of possible adverse event outcomes
*****Subject to change*****

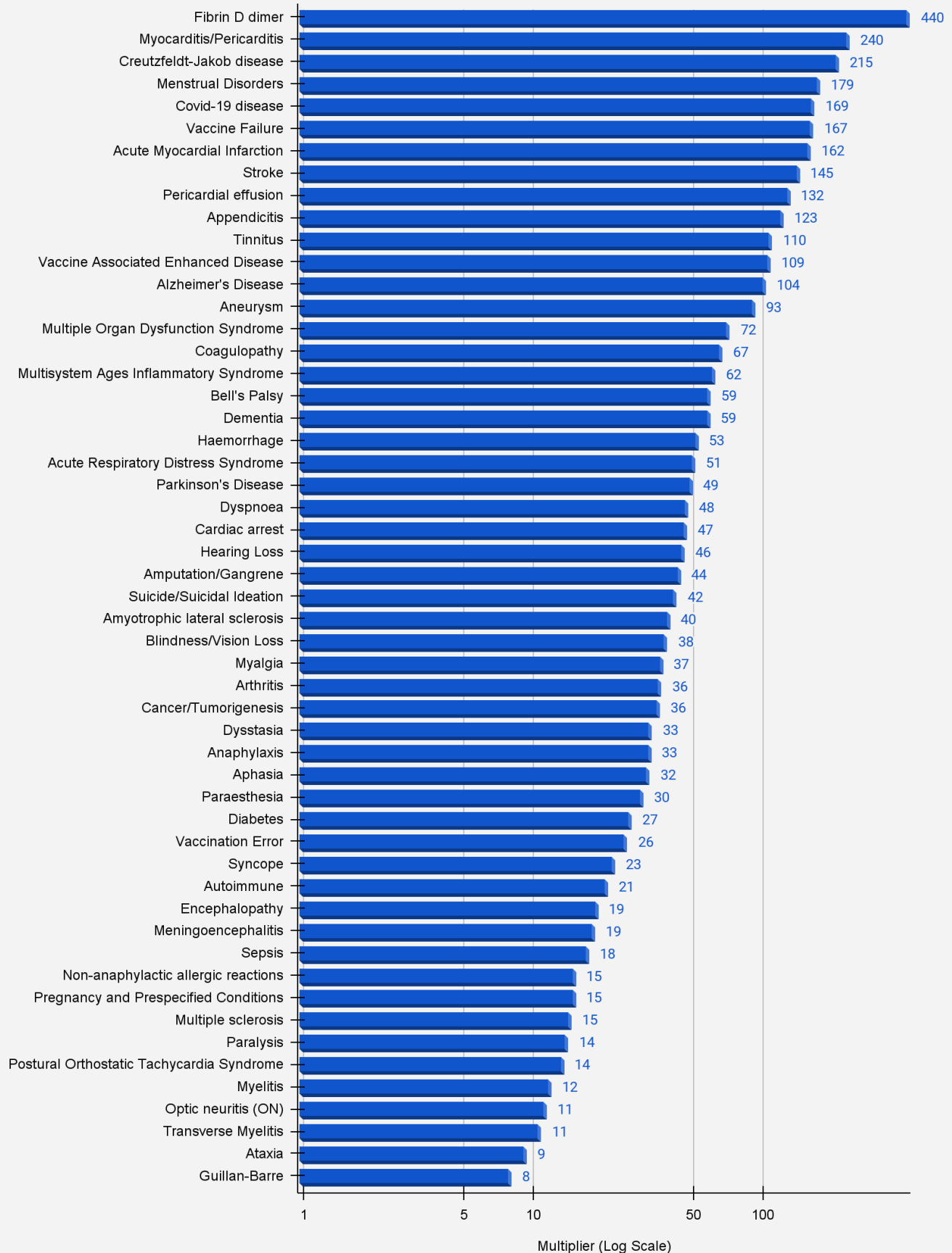
<ul style="list-style-type: none"> ▪ Guillain-Barré syndrome ▪ Acute disseminated encephalomyelitis ▪ Transverse myelitis ▪ Encephalitis/myelitis/encephalomyelitis/meningoencephalitis/meningitis/encephalopathy ▪ Convulsions/seizures ▪ Stroke ▪ Narcolepsy and cataplexy ▪ Anaphylaxis ▪ Acute myocardial infarction ▪ Myocarditis/pericarditis ▪ Autoimmune disease 	<ul style="list-style-type: none"> ▪ Deaths ▪ Pregnancy and birth outcomes ▪ Other acute demyelinating diseases ▪ Non-anaphylactic allergic reactions ▪ Thrombocytopenia ▪ Disseminated intravascular coagulation ▪ Venous thromboembolism ▪ Arthritis and arthralgia/joint pain ▪ Kawasaki disease ▪ Multisystem Inflammatory Syndrome in Children ▪ Vaccine enhanced disease
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The following table lists the number of adverse events found in the VAERS data which match the outcomes listed above:

FDA listed symptom	Total (Non-Lethal) Adverse Events	Total Deaths	Total (Non-Lethal) AEs for All Other Vaccines (1990-present)	Total Deaths for All Other Vaccines (1990-present)
Guillain-Barre	3279	74	4713	150
Acute Disseminated Encephalomyelitis	264	7	464	30
Transverse Myelitis	699	8	864	16
Encephalitis	3388	476	5013	491
Convulsions/Seizures	16418	548	30298	543
Stroke	11990	1004	1644	97
Narcolepsy, Cataplexy	305	6	372	3
Anaphylaxis	51923	183	42561	174
Acute Myocardial Infarction (Heart Attack)	6461	1748	386	168
Myocarditis/Pericarditis	25372	440	1051	95
Autoimmune Disease	2936	40	1226	18
Other Acute Demyelinating Diseases	483	8	887	25
Pregnancy and birth outcomes (Miscarriages)	5064	159	2943	53
Other Allergic Reactions	2806	5	2193	3
Thrombocytopenia	5206	458	3473	130
Disseminated Intravascular Coagulation	320	107	62	29
Venous Thromboembolism	28756	1754	796	123
Arthritis and Arthralgia/Joint Pain	91741	321	30405	80
Kawasaki Disease	105	2	758	8
Systemic Inflammatory Response Syndrome	1126	71	389	10

Average Annual Adverse Events by Symptom for Covid-19 Vaccines as a Multiple of All Other Vaccines Combined since 1990

(Data from VAERS through 5/12/22)



Vaccination Related Risks of Covid-19 vs. Flu

These set of figures compare the COVID19 vaccine to the traditional Flu vaccines. 'Risk of Death' percentages depend on the '# of Vaccinations' data, which is only approximate, and was pulled from the [CDC's report](#) on Flu vaccination coverage for the 2019-2020 season, and from [CDC's Vaccination Trends in the US](#) for the COVID19 vaccinations.

Covid19 vaccinations through 5/31/2021 vs. Flu vaccinations 7/1/2019 - 5/31/2020 (last complete flu season)

Vaccine Type	# of Vaccinations ^[3]	# of Deaths	Risk of Death	Percentage	Deaths/Mill. Vaccinations ^[3]
Flu	167,447,642 ¹	33	1 in 5,074,171	0.000020%	0.20
COVID19	173,638,666 ²	6,492	1 in 26,747	0.003739%	37.39
Risk of dying from COVID vaccine is 190 times greater than Flu Vaccine					

Vaccine Type	# of Vaccinations ^[3]	# of Adverse Reactions	Risk of Adverse Reaction	Percentage	AEs/Mill. Vaccinations ^[3]
Flu	167,447,642	9,742	1 in 17,188	0.005818%	58.18
COVID19	173,638,666	585,263	1 in 297	0.337058%	3,370.58
Risk of adverse reaction from COVID vaccine is 58 times greater than Flu Vaccine					

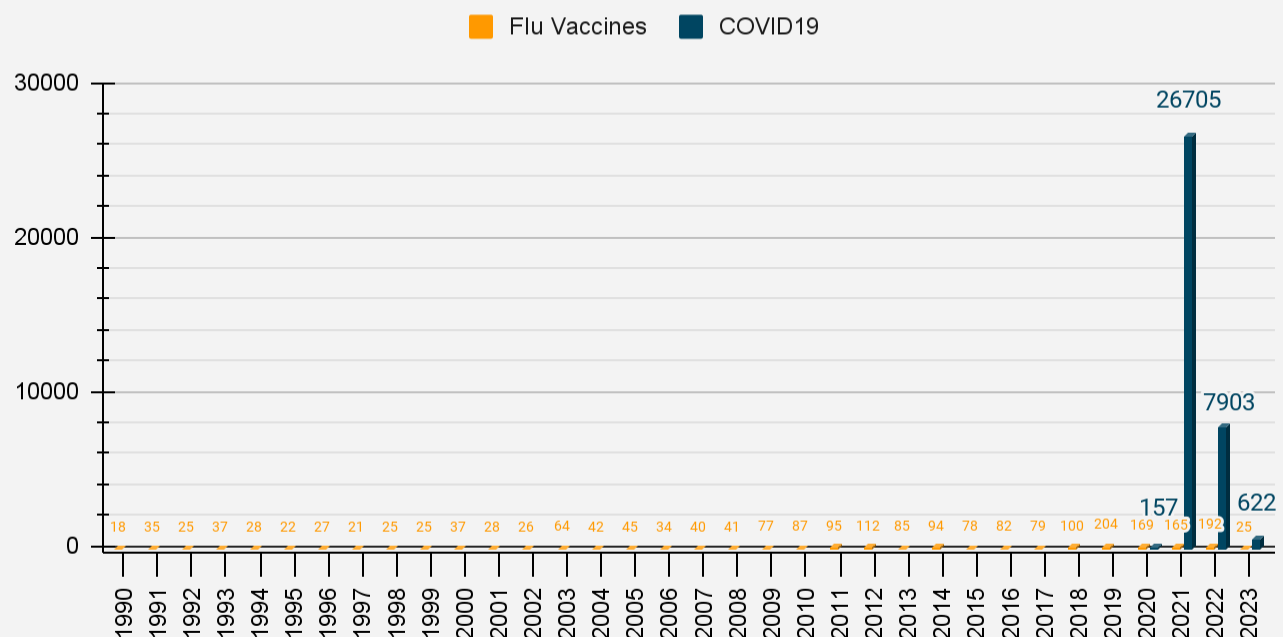
[1] number of flu vaccinations based on estimated flu vaccine coverage data from [CDC](#) and estimated population data from [US Census](#). Yearly flu vaccination data covers a period of time from 7/1 to 5/31 of the following year.

[2] number of covid19 vaccinations based on estimates from [CDC's Vaccination Trends in the US](#)

[3] Persons vaccinated with at least one dose.

Reported Deaths by Year, COVID19 vs. Flu Vaccines

Data Obtained from CDC's VAERS



Vaccine Data by Manufacturer

Manufacturer	# of Deaths	% Deaths	Average Deaths/Day	# US Deaths	# US Doses Administered	Average US Deaths/Mill. Doses	Days since EUA approval	EUA Approval Date
Janssen (JNJ)	3005	8.45	3.73	1992	19007537	104.8	805	2962
Moderna	9999	28.11	11.43	7579	232147784	32.65	875	9746
Pfizer/Biontech	22070	62.03	25.02	7762	366979906	21.15	882	21694
Unknown	246	0.69		65	890835			233
Pfizer-Bivalent	170	0.48	0.67	161	36730941	4.38	253	131
Moderna-Bivalent	99	0.28	0.39	96	20781667	4.62	253	80

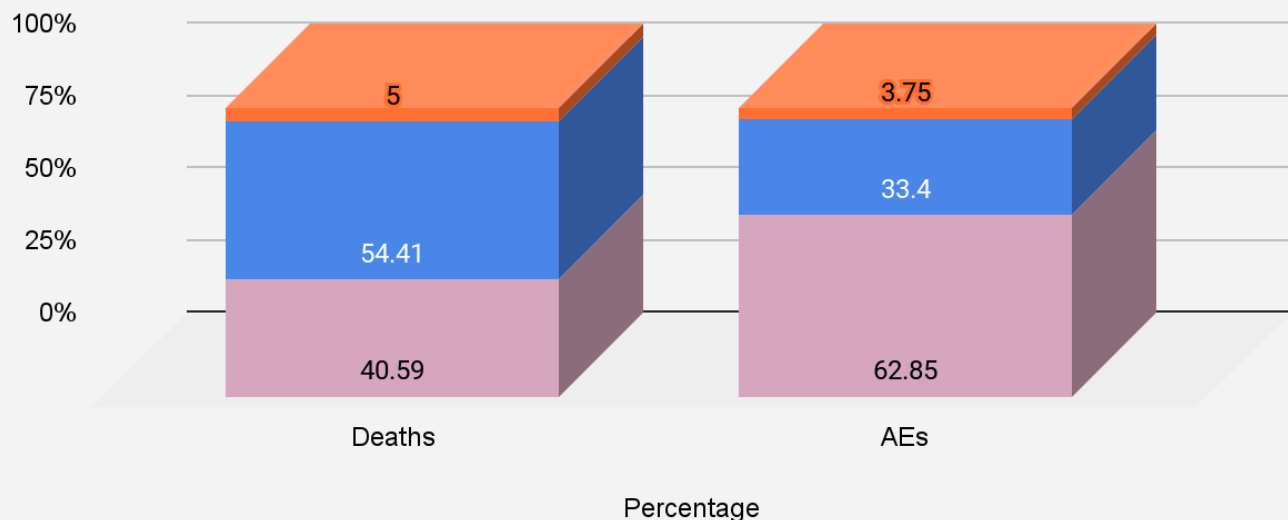
Manufacturer	# of AEs	% AEs	Average AEs/Day	# US AEs	S s Adni	Average US AEs/Mill. Doses	Days since EUA approval	EUA Approval Date
Janssen (JNJ)	98300	6.25	122.11	72920	19007537	3836.37	805	2/26/2021
Moderna	515899	32.82	589.6	425039	232147784	1830.9	875	12/18/2020
Pfizer/Biontech	914112	58.15	1036.41	432784	366979906	1179.31	882	7/13/2022
Unknown	11905	0.76		6028	890835			
Novavax	300	0.02	0.99	278	89195	3116.77	303	12/11/2020
Pfizer-Bivalent	18948	1.21	74.89	18765	36730941	510.88	253	9/1/2022
Moderna-Bivalent	12855	0.82	50.81	12748	20781667	613.43	253	9/1/2022

Vaccine Data by Gender

Gender Distribution of Reported Deaths and AEs after COVID19 Vaccination

All Data Obtained from CDC's VAERS

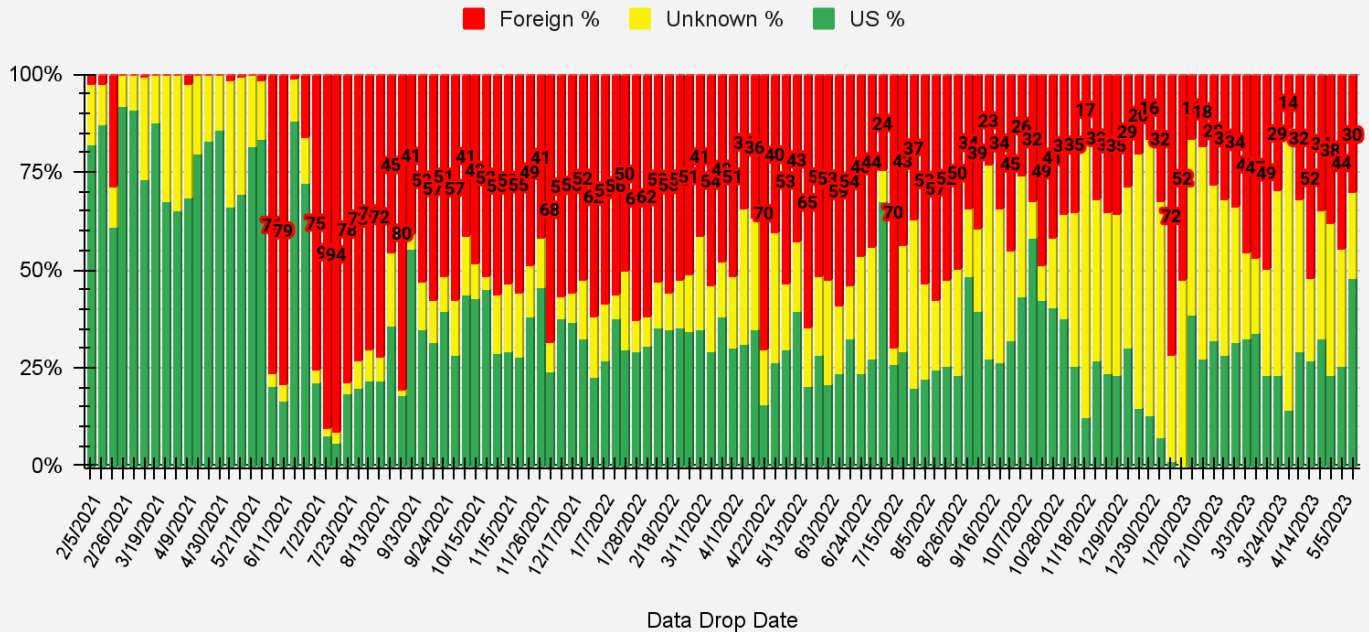
■ Unknown
 ■ Male
 ■ Female



Vaccine Data by Location

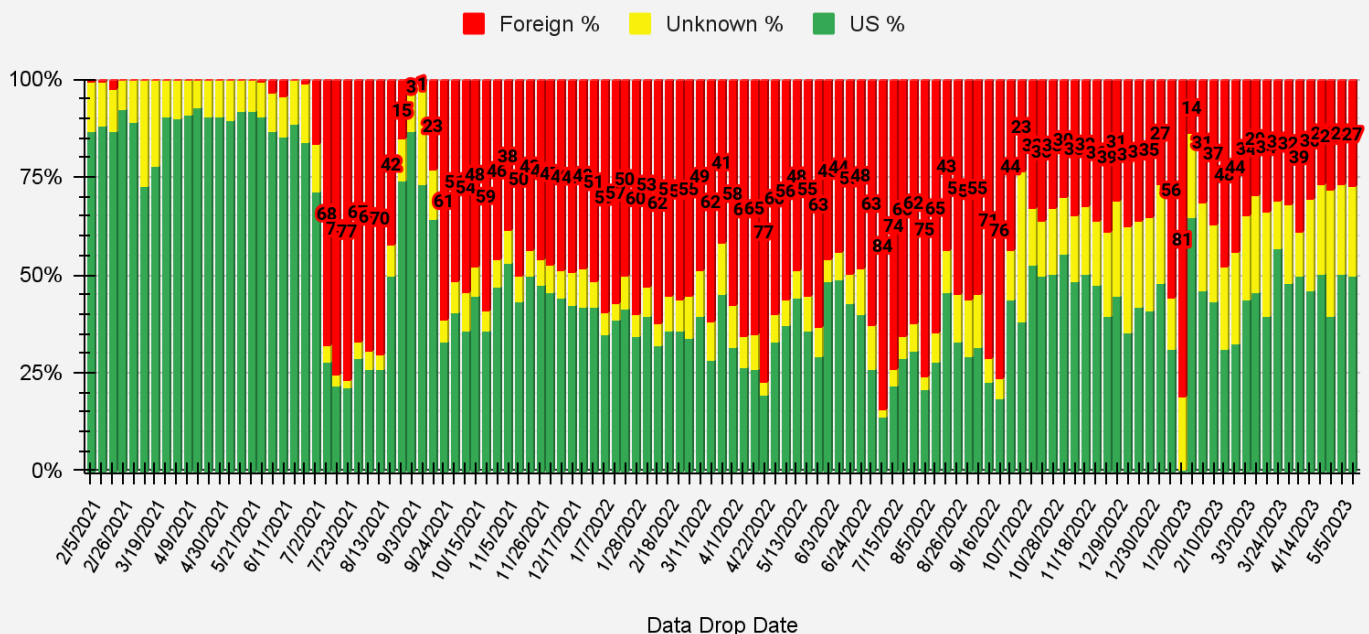
Distribution by Location of Reported Deaths after COVID19 Vaccination

All Data Obtained from CDC's VAERS



Distribution by Location of Reported Adverse Events after COVID19 Vaccination

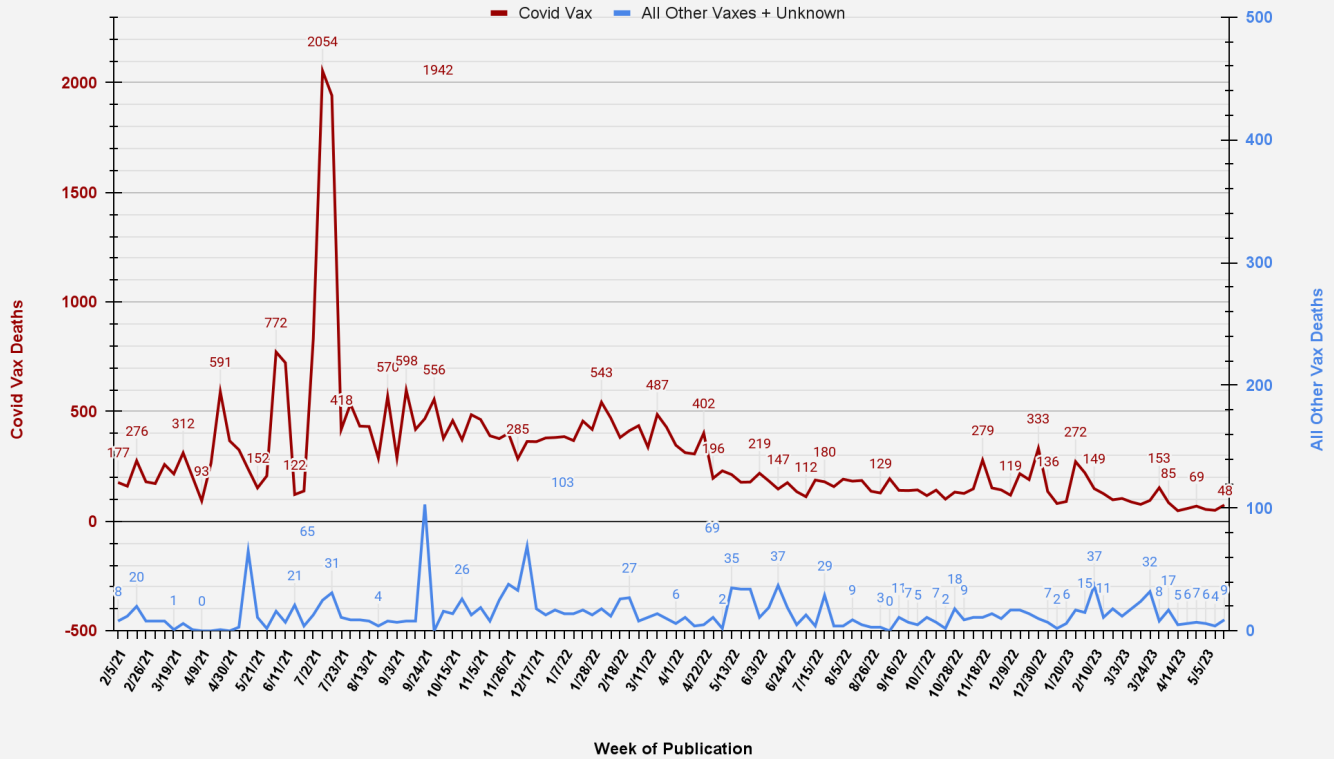
All Data Obtained from CDC's VAERS



VAERS Weekly Publication History

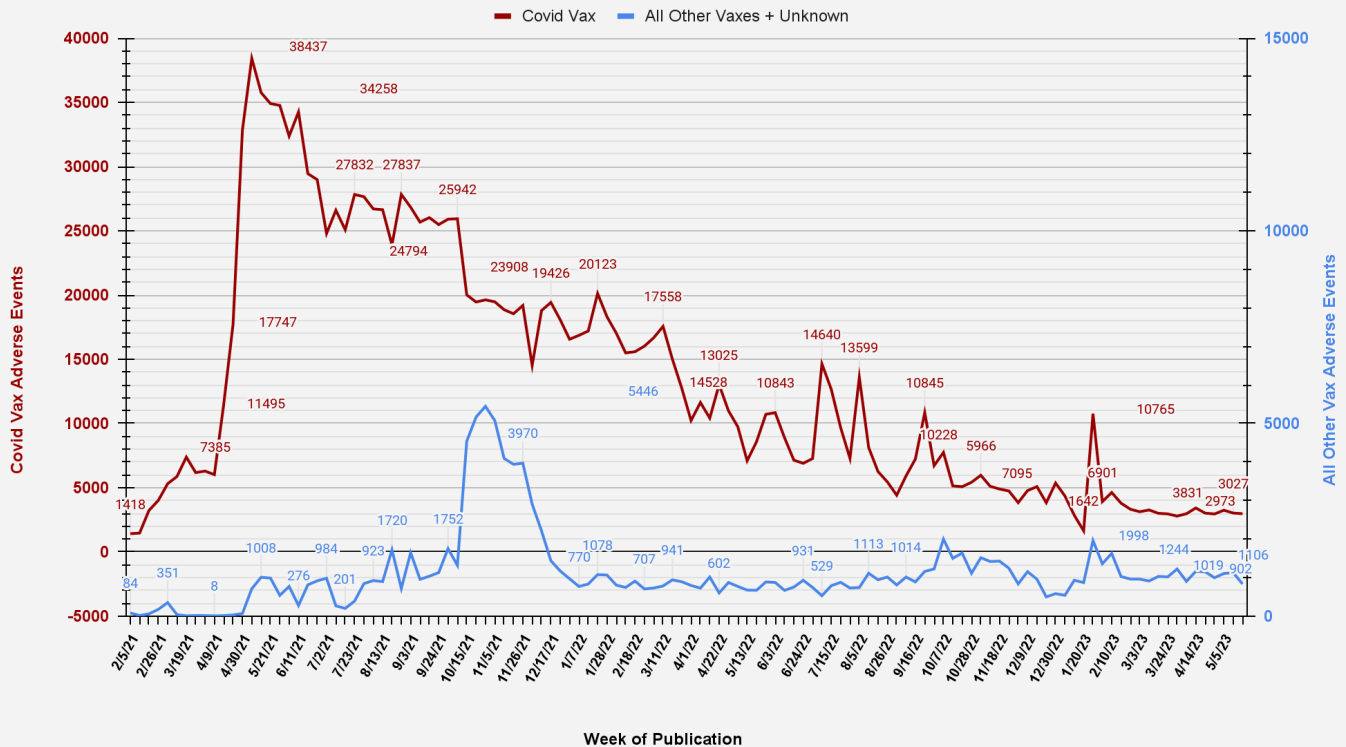
New VAERS Deaths Published by Week

All Data Obtained from CDC's VAERS



New VAERS Adverse Events Published by Week

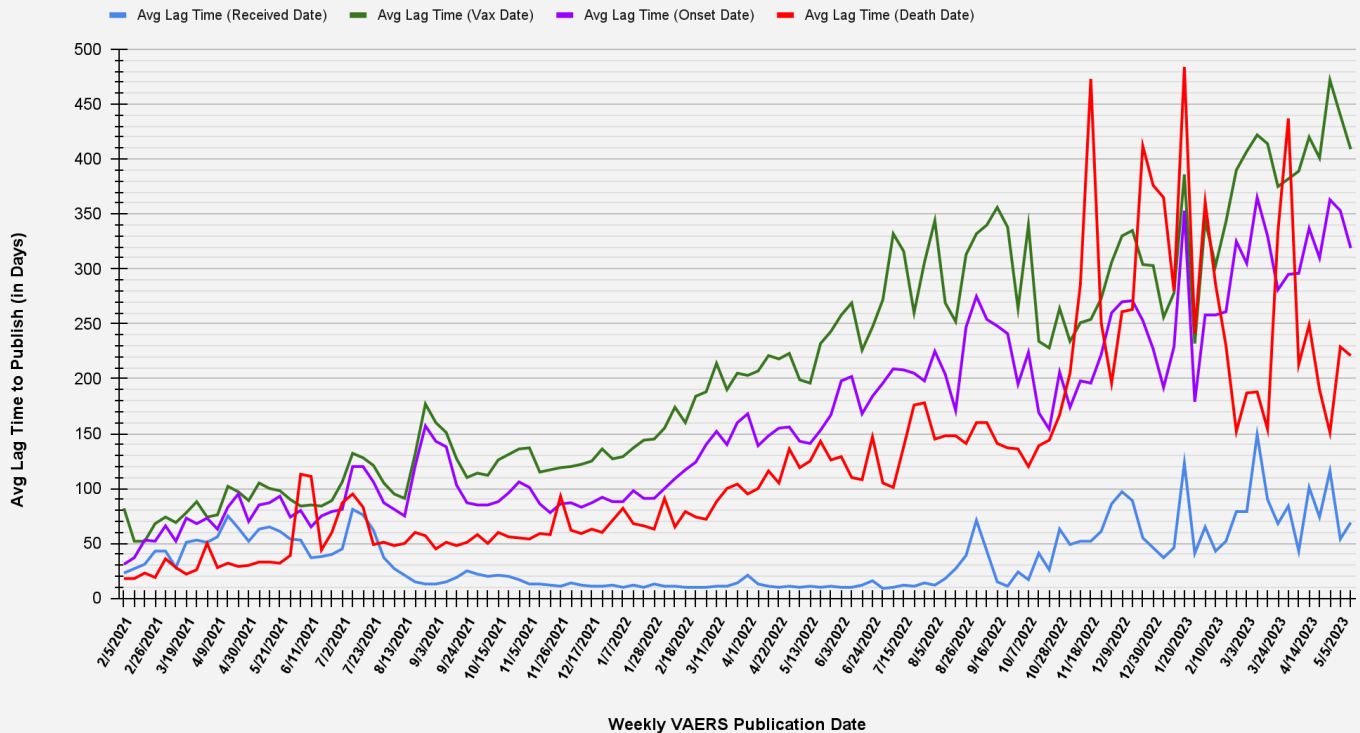
All Data Obtained from CDC's VAERS



Lag Time to Publish History

Average Lag Time to Publish in VAERS

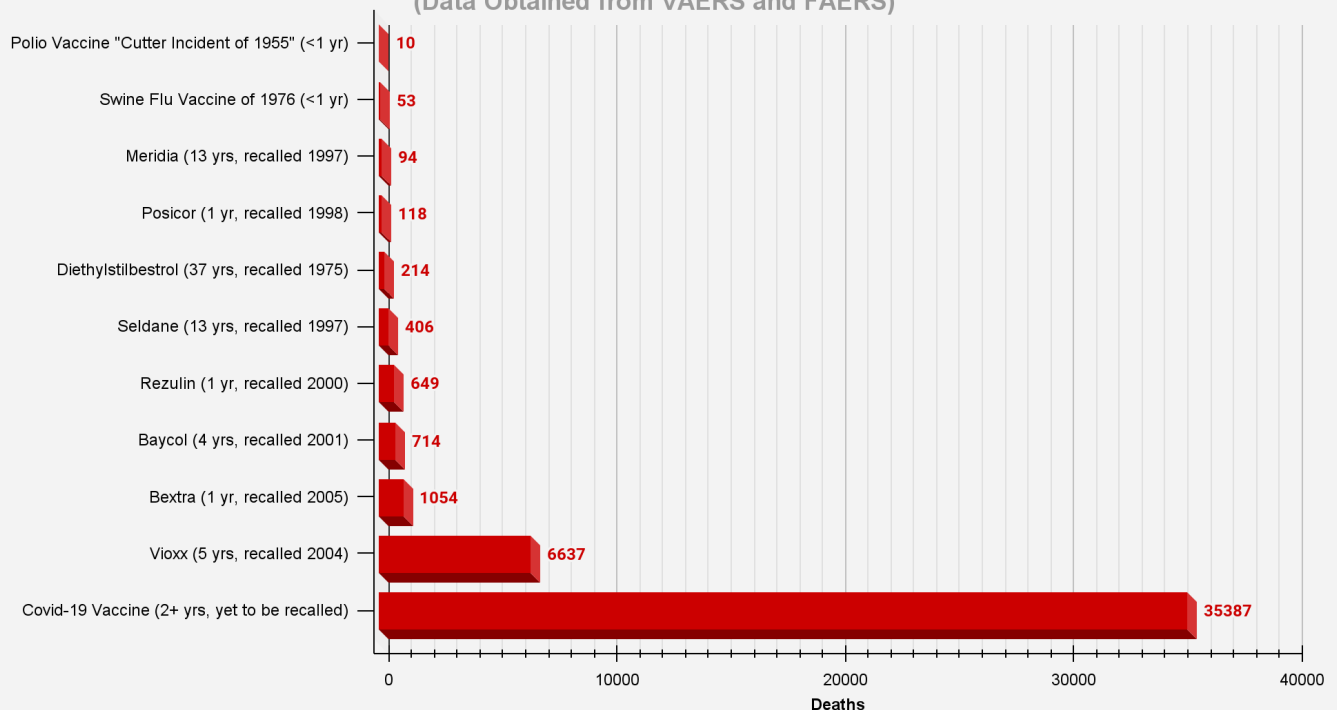
(Avg difference between date of publication and these dates: Received Date, Vax Date, Onset Date, Death Date)



Recall History

Reported Deaths for Major Drug/Vaccine Recalls

(Data Obtained from VAERS and FAERS)

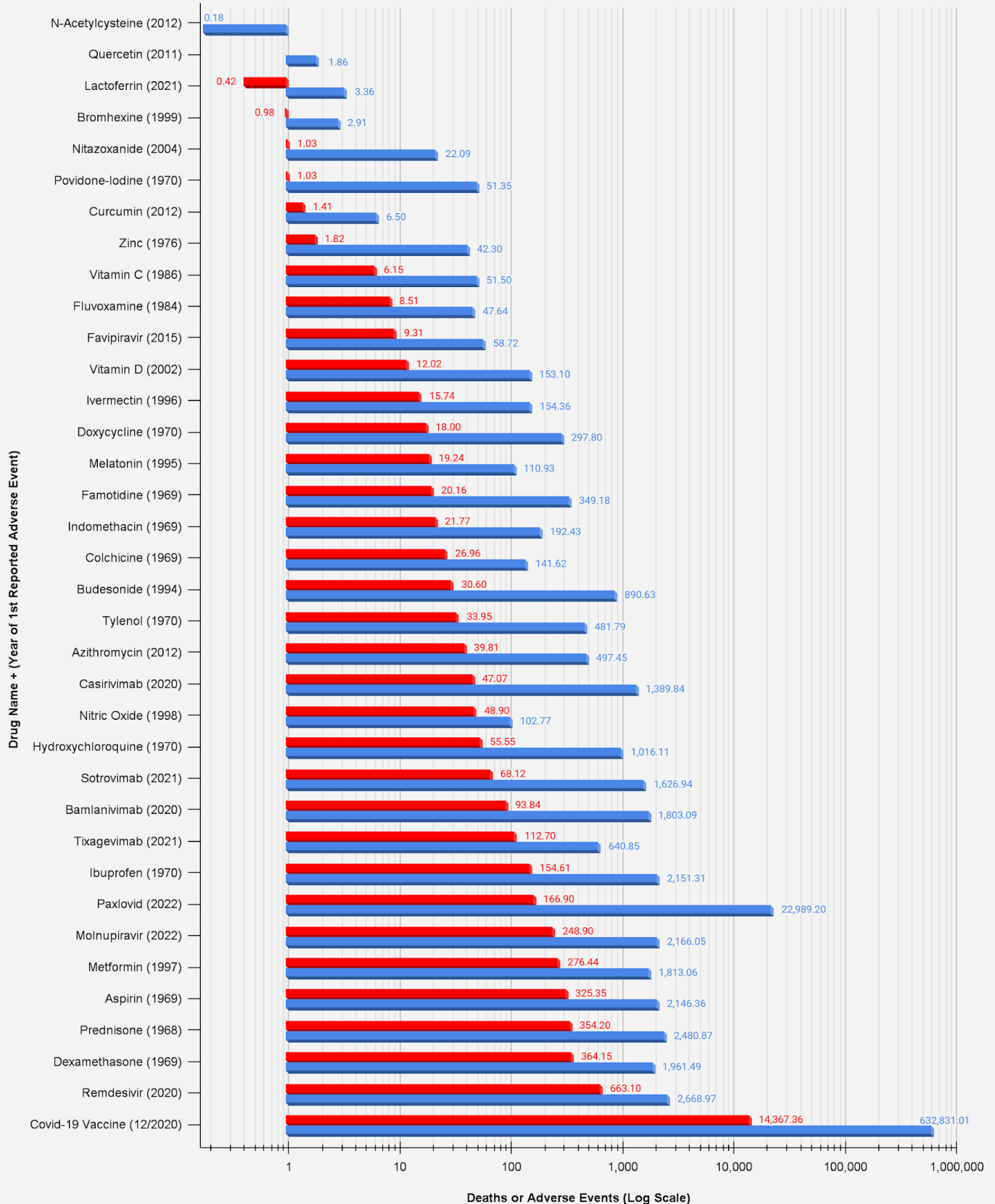


Alternative Covid-19 Therapeutics

Average Reported Deaths/AEs per Year for Covid-19 Therapeutics

Data Obtained from FAERS/VAERS (list of Covid-19 therapeutics from c19early.com)

■ Avg Deaths Per Year ■ Avg Adverse Events Per Year



[Note that N-Acetylcysteine and Quercetin have 0 reported deaths]

Sources

Visit: vaersanalysis.info for more information

1. Vaccine data (Covid-19 and other vaccines) taken from CDC's VAERS website, located here: <https://vaers.hhs.gov/data/datasets.html>. VAERS data sets in the form of csv files are pulled down weekly and put into a database for reporting/analysis. Data files are available all the way back to 1990.
2. Number of doses distributed for other vaccines found in NVICP Data and Statistics report here: <https://www.hrsa.gov/sites/default/files/hrsa/vaccine-compensation/data/data-statistics-report.pdf>
3. Numbers for Covid-19 vaccines administered by manufacturer found here: https://covid.cdc.gov/covid-data-tracker/#vaccinations_vacc-total-admin-rate-total
4. Numbers for total Covid-19 vaccine doses administered found here: <https://data.cdc.gov/Vaccinations/COVID-19-Vaccination-Trends-in-the-United-States-N/rh2h-3yt2>
5. Numbers for Flu vaccine doses administered for 2019-2020 season found here: <https://www.cdc.gov/flu/fluview/covaxview/coverage-1920estimates.htm>
6. Numbers for FDA regulated drugs taken from FDA's FAERS website, located here: <https://www.fda.gov/drugs/questions-and-answers-fdas-adverse-event-reporting-system-faers/fda-adverse-event-reporting-system-faers-public-dashboard>

Exhibit 7

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COVID vaccination and age-stratified all-cause mortality risk

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Main text (3899 words, with Methods and Materials in Supplement)

3 Tables

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Figure Legends

3 Figures

Running title: COVID vaccination and age-stratified mortality

Keywords: Public health, medical ethics, risk-benefit ratio, epidemiology, COVID-19,
SARS- CoV- 2, vaccine adverse events

Abstract

Accurate estimates of COVID vaccine-induced severe adverse event and death rates are critical for risk-benefit ratio analyses of vaccination and boosters against SARS-CoV-2 coronavirus in different age groups. However, existing surveillance studies are not designed to reliably estimate life-threatening event or vaccine-induced fatality rates (VFR). Here, regional variation in vaccination rates was used to predict all-cause mortality and non-COVID deaths in subsequent time periods using two independent, publicly available datasets from the US and Europe (month- and week-level resolutions, respectively). Vaccination correlated negatively with mortality 6-20 weeks post-injection, while vaccination predicted all-cause mortality 0-5 weeks post-injection in almost all age groups and with an age-related temporal pattern consistent with the US vaccine rollout. Results from fitted regression slopes ($p < 0.05$ FDR corrected) suggest a US national average VFR of 0.04% and higher VFR with age (VFR=0.004% in ages 0-17 increasing to 0.06% in ages >75 years), and 146K to 187K vaccine-associated US deaths between February and August, 2021. Notably, adult vaccination increased ulterior mortality of unvaccinated young (<18, US; <15, Europe). Comparing our estimate with the CDC-reported VFR (0.002%) suggests VAERS deaths are underreported by a factor of 20, consistent with known VAERS under-ascertainment bias. Comparing our age-stratified VFRs with published age-stratified coronavirus infection fatality rates (IFR) suggests the risks of COVID vaccines and boosters outweigh the benefits in children, young adults, and older adults with low occupational risk or previous coronavirus exposure. Our findings raise important questions about current COVID mass vaccination strategies and warrant further investigation and review.

Introduction

Accurate estimates of severe vaccine adverse event rates are critical for cost-benefit ratio analyses of COVID vaccination in various age groups. The vaccine clinical trials (~15-20K participants in each arm) and safety surveillance studies (1) are either underpowered or not designed for adequate safety assessments with respect to vaccine-induced death (see Discussion for brief review). In the US, real-world vaccine safety signals have relied on the Center for Disease Control (CDC) Vaccine Adverse Events Reporting System (VAERS) database (2). The CDC has used VAERS data to report a vaccine fatality rate (VFR) of 0.002%¹, estimated by dividing the number of reported VAERS deaths by the total number of vaccine doses administered in the US. However, the VAERS has several limitations, including 1) reported incidents are not independently verified or confirmed to results from vaccination, and 2) it only receives, not collects, reports from individuals and/or health professionals and organizations and likely suffers from under-ascertainment/underreporting bias (3).

Here, two independent, publicly available data sources from the US and Europe were used to test whether region-to-region variation in vaccination rates predicts or correlates with region-to-region variation in future (following weeks or month) mortality rates. Using the European data, we asked whether COVID vaccination correlates with deaths at short and long intervals post-injection stratified by 6 age groups (0-14, 15-44, 45-64, 65-74, 75-84, and 85+). With the US data, multiple linear regression was used to test whether we could observe similar short term effects seen in the European data. The US data was stratified by 8 age groups (0-17, 18-29, 30-39, 40-49, 50-64, 64-74, 75-84, and 85+). These models adjusted for COVID deaths as well as seasonality effects and interregional variation in mortality due to other factors by adjusting for same-month 2020 deaths. Using same month deaths from 2020 (as opposed to

¹ <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/adverse-events.html>

2019 or earlier) also helped control for interregional differences in pandemic public health measures before the vaccination campaigns began.

Our second aim was to estimate a US national average VFR and age-stratified rates using significant regression slopes for the vaccination term in the regression model. The European data reports age-stratified mortality rates on a weekly basis and allows for higher temporal resolution analyses, but mortality rates are z-scored normalized and hence effect size estimates in real units are not possible. The units of the US data allow for such estimates since it records raw numbers of administered vaccine doses and death counts in each jurisdiction, but at a lower (monthly) temporal resolution. Finally, we compared our estimates with previously published US national average and age-stratified SARS- CoV- 2 infection fatality rates for risk-benefit ratio analysis of vaccination against COVID-19 stratified by age.

Results

Associations between weekly vaccination and mortality data from Europe and Israel

For each week since the start of 2021 for 22 European countries, weekly increases in percentages of the total population who received at least one injection were extracted from [Coronavirus \(COVID\) Vaccinations - Statistics and Research - Our World in Data](#), and correlated with varying time lags (0-28 weeks post vaccination) with weekly age-stratified mortality data extracted from euromomo.eu (see Supplementary Materials and Methods). The overall description of results requires distinguishing between the age group 0-14 which were unvaccinated during the time period analyzed, and ages above 14. For ages above 14, there is a positive association (correlation) between vaccination and mortality rates during the first few weeks of vaccination (Table 1, lags 0-5 and Figure 1 leftmost yellow peaks). Overall, mortality above age 14 associates near zero or negatively with vaccination for mortality later than 5-6 weeks after vaccination (Table 1, lags 5-20 and Figure 1 middle blue troughs). These results

coincide with known clinical developments of vaccination, as found in the VAERS data: most deaths occur within the first weeks after vaccination, and vaccine protection occurs after the sixth week after first dose injection. For age groups 15-44 and 45-64, the overall tendency is that protective vaccine effects (meaning negative associations between mortality and vaccination) disappear about 20 weeks after first injection. After week 20, there might be a tendency for adverse effects of vaccination, meaning positive r values between mortality beyond week 20 and vaccination at least 20 weeks before (Table 1, lags >20 and Figure 1 rightmost yellow peaks).

For the unvaccinated age group 0-14, most associations between mortality and vaccination in adults are positive (among 39 r values with unadjusted two-tailed $P < 0.05$, 32 are positive and 7 are negative r 's). This tendency for positive correlations increases from the week of vaccination until week 18 after vaccination, then disappears. It indicates indirect adverse effects of adult vaccination on mortality of children of ages 0-14 during the first 18 weeks after vaccination.

US results

The following analyses used publicly available US data on vaccination, mortality and age-stratified population size in each US state. The data were obtained from either the CDC or US Census Bureau (see Data Sources section in Supplementary Materials and Methods). Our analyses focused on whether we could replicate the higher mortality within the first 5 weeks of vaccination observed in the euromomo.eu data. Since US mortality data were limited to month-level resolution, we tested whether monthly vaccination rates predicted mortality during the same month or during the next month. Multiple linear regression was used to predict the total # of deaths among 8 age groups (0-17, 18-29, 30-39, 40-49, 50-64, 65-74, 75-84, >85 years) for 7 months (February, March April, May, June, July and August 2021). For each month and age group, the following equation was fitted:

$$\log(Y21_deaths) = \beta_0 + \beta_1 \log(Y20_deaths) + \beta_2 \log(Vax) + \varepsilon \quad (1)$$

Where $Y21_deaths$ and $Y20_deaths$ are the number of total deaths for that month in year 2021 and 2020, respectively, and Vax is the number of vaccine doses administered in the previous month (or current month). See Supplementary Methods and Materials for more information and details about other analyses to rule out potential confounding factors such as COVID case rates and COVID deaths.

Prior month or current month vaccinations (# of administered doses) predicted monthly total deaths in most age groups. The beta coefficient for the vaccine term was significant in 15 regression models ($p < 0.05$ FDR corrected, see yellow boxes in Table 2). Most vaccination regression slopes terms were positive while no terms with negative slopes survived $p < 0.05$ corrected nor a more liberal threshold of $p < 0.05$ uncorrected. In older age groups (>75 years) the beta weights were highest in the beginning of the year, while in younger ages th later in the year. This is the expected result since the vaccination campaign first targeted nursing homes and older age groups before younger age groups became eligible for vaccination. When using vaccination counts from the same month (instead of previous month) as deaths, 7 models survived the applied significance threshold where the original models did not, all in younger (<50 years old) age groups (Table 3, light grey boxes). Using age-specific vaccination rates also increased detection of significant effects for 2 models (Table 3, dark gray boxes) where effects were not detected in the previous 2 models. Adjusting for the number of new COVID cases during the previous month did not significantly alter these results (see Supplementary Table 5). Moreover, the results were similar when predicting non-COVID associated deaths (Supplementary Table S6). Note that because COVID-associated deaths are rarer in younger age groups, the latter analyses had much less power because few states had available data to

compute non-COVID deaths in ages 0-49 (see Supplementary Table S6). A sample scatter plot and best fit line for July in ages 0-17 is shown in Figure 3. All plots with vaccination terms surviving $p < 0.05$ FDR (yellow boxes in Table 2 and cells with numbers in Table 3) are shown in Supplementary Figure S1.

Cumulating the monthly model-estimated deaths across all significant results from the original models and from an additional 9 results from the two model variations mentioned above yielded a total of 146,988 deaths attributed to COVID vaccinations between February and August of 2021 (lower right cell of “Estimated Deaths” in Table 3). Applying the same procedure while thresholding the results at a more liberal threshold ($p < 0.05$ uncorrected) yielded an estimated 168,908 vaccine-related deaths (Supplementary Table S6). The same procedure applied using standard linear regression with a stringent threshold ($p < 0.05$ corrected) yielded 133,382 deaths attributed to vaccination (Supplementary Table S7), while thresholding these regression weights more liberally ($p < 0.05$ uncorrected) yielded 187,402 vaccine associated deaths (Supplementary Table S8).

Results from the *robustfit* regression models thresholded at $p < 0.05$ FDR corrected were used to estimate VFR. Dividing the total number of model-estimated deaths by the total number of vaccine doses administered between January and August yielded an estimated US national average VFR of 0.04% (bottom of Table 2). Age-specific VFRs were estimated by averaging across all months and for all 3 models when thresholding regression slopes at $p < 0.05$ (see methods). These yielded estimated aVFRs of 0.004% for ages 0-17 years, 0.005% for 18-29 years, 0.009% for 30-39, 0.017% for 40-49, 0.016% for 50-64, 0.036% for 65-74, 0.06% for 75-84, and 0.055% for 85-plus (see Table 3). See Supplement for analyses restricted to ages < 1 years.

Discussion

In this study we find that regional variation in vaccination rates predicts mortality in subsequent time periods. The mortality data from euromomo.eu confirm previously known patterns in the vaccinated: a positive association with adverse events, including death, up to 5-6 weeks after the first injection, followed by a decrease in mortality associated with vaccination 6-20 weeks post-injection. The decrease is presumably due to the protective effect of vaccination, which is known to start 6 weeks after the first injection. The end of the protective vaccine period as observed in our data, about 20 weeks, corresponds approximately with the end of the protective vaccine period as generally accepted, 4-6 months (4). The euromomo.eu data also reveal an unexpected increase in mortality in children (which are unvaccinated) with adult vaccination rates in the previous period. It is notable that this indirect adverse vaccination effect was independently observed in both CDC and euromomo.eu datasets. The majority of deaths <18 years age occur in infants <1 years, and a significant effect of vaccination on infant mortality was detected when the US CDC data was restricted to that age group (see Supplementary Results). It is unclear to what extent the observed effects relate to abnormally high mortalities around delivery, and/or infants, and/or in older children and/or young adolescents. Note that several important concerns and errors have been raised in response to previously published studies supporting safety of vaccination in pregnant women (see Supplementary Discussion for a brief review).

The increased mortality in the first 0-6 weeks post-injection may be due in part to increased COVID infectivity before vaccine protection takes effect. A re-analysis of a large real world study of vaccine effectiveness (Dagan et al 2021 (5)) suggests infectivity in vaccinated persons increases 3-fold approximately 7 days following the 1st dose of the Pfizer vaccine (17). Figure 2 in (7) suggests a similar pattern with the CoronaVac vaccine. Likewise, the euromomo.eu data also suggest a tendency for adverse effects caused by the vaccine in those above age 14 beginning 20 weeks after first injection, potentially indicating that antibody-

dependent enhancement (ADE) (8–10) or another related effect kicks in after protective vaccine effects dissipate. Alternatively, the increase in adverse effects observed after week 20 may instead be due to short term mortality arising from booster campaigns which began in late summer or fall. Further analyses are required to disentangle and understand the causes of this effect.

The US CDC data allowed for estimation of VFR and vaccine-induced deaths. Importantly, our calculations do not rely on VAERS and its associated limitations. Our estimated US national average VFR of 0.04% is 20-fold greater than the CDC reported VFR of 0.002%², suggesting vaccine-associated deaths are underreported by at least a factor of 20 in VAERS. The estimate is based only on significant effects detected in our analysis, and hence likely represents a lower bound on the actual underreporting factor.

Interestingly, our estimates of 133K to 187K vaccine-related deaths are very similar to recent, independent estimates based off of US VAERS data through August 28th, 2021 by Rose and Crawford (11). The authors report a range of estimates depending on different credible assumptions about the VAERS underreporting factor and percentages of VAERS deaths definitely caused by vaccination based on pathologists' autopsy findings. The authors compared a previously reported incidence rate of anaphylaxis in reaction to mRNA COVID vaccine (~2.5 per 10,000 vaccinated) (12) to the number of events reported to VAERS to estimate an underreporting factor for anaphylaxis (41x). This factor, multiplied by the number of reported VAERS deaths and the percentage of VAERS deaths believed to be caused by vaccination based on pathologists' estimates, yields various estimates with an average around 180K deaths. Our estimate does not rely on VAERS data and uses independent and publicly available data, and thus contributes additional convergent evidence for the above estimate of vaccine-induced

² <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/adverse-events.html>

deaths. See Supplementary Discussion for additional reasons why our results evidence a causal link (not just an association) between vaccination and death.

Death and severe adverse events to the COVID vaccines appear to be mediated in part by cytotoxicity of the spike protein and its (unintended) cleaving from transfected cells and biodistribution in organs outside the injection site (13–18). Vaccination may also contribute to higher COVID IFR before vaccination protection kicks in (and after full protection wears off) due to antibody dependent enhancement (ADE) (8,10,19). The effect may be related to enhanced respiratory disease observed in preclinical studies of SARS and MERS vaccines (20,21). An additional or alternative mechanism may stem from quality control issues related to production, handling and distribution of the vaccines. A recent analysis of VAERS data suggests only ~5% of the vaccine batches account for the majority (>90%) of adverse reactions, those batches were the most widely distributed (more than 13 states), and reported adverse event rates appear to vary across jurisdictions an order of magnitude (22).

Existing safety and surveillance studies are not designed to reliably estimate COVID vaccine-induced death risk

A recent safety surveillance analysis of mRNA vaccines against COVID using the Vaccine Safety Datalink (23) found event rates for 23 serious health outcomes were not significantly higher for individuals 1 to 21 days after vaccination compared with similar individuals at 22 to 42 days after vaccination. This is not very informative as the main comparison of interest is the background rate of adverse events in the unvaccinated. If the severe adverse event rate is similar 1-21 days post-vaccination as it is 22-42 days post-vaccination, then no difference in risk (safety signal) will be detected. The authors include an analysis using an unvaccinated comparator group in Supplementary eTable 6. Surprisingly, the table reports significantly *reduced* risk of thrombosis with thrombocytopenia syndrome ($p=0.004$), hemorrhagic stroke

($p < 0.001$), pulmonary embolism ($p < 0.001$), and acute myocardial infarction ($p < 0.001$) in the vaccinated 1-21 days post injection compared to the unvaccinated comparator group. This is intriguing because these adverse events are precisely the events known to be associated with both the viral vector-based and mRNA COVID vaccines based on CDC VAERS data (749 results for “acute myocardial infarction”, 4,579 results for “thrombosis” or “thrombocytopenia”, 98 results for “hemorrhagic stroke”, and 2,395 results for “pulmonary embolism” for mRNA vaccines as of Oct 22nd, 2021) and published case reports (14,24–26). The authors do not devote any discussion on how or why their results provide strong evidence that COVID vaccination appears to protect against the very adverse events that were previously associated with vaccination. We speculate it is more likely the groups were mislabeled due to human or technical error.

A recent paper by Xu et al., also based on the Vaccine Safety Datalink (VSD) cohorts used in Klein et al., reported significantly reduced mortality risk in vaccinated vs. unvaccinated (27). As with Klein et al. that found significantly reduced risk for severe adverse events in vaccinated people (discussed above), the finding of reduced standardized mortality rates ($p < 0.001$) in the vaccinated compared with unvaccinated is unexpected, especially since the groups were matched for “similar characteristics” and standardized mortality rates were adjusted for age, sex, race and ethnicity. The authors suggest “This finding might be because of differences in risk factors, such as underlying health status and risk behaviors among recipients of mRNA and Janssen vaccines that might also be associated with mortality risk” (27). However, this does not comport with recent findings from a large survey study that found PhD-holders are among the most vaccine hesitant groups (28,29), as are women looking to become pregnant, religious people, and people who practice yoga/“wellness” culture (30). Given that the study is based on the same sites/cohorts used Klein et al. (1), which found significantly *reduced* risk in the vaccinated for the same severe adverse events that have associated with COVID vaccination in VAERS data and published case reports (see discussion above), we speculate their findings

may be due to a technical or human error involving group labeling or coding. Note that the data used for their study is not publicly accessible (in contrast to our study), and two authors report receiving funding from Pfizer.

Vaccine cost-benefit ratio

According to a recent meta-analysis of IFR studies, up to 90% of the variation in population-wide coronavirus infection fatality rate (IFR) is explained by age composition and the extent to which older age groups are exposed to the virus (31). The study reports the IFR for age 10 is 0.002%, age 18 years is 0.005%, 25 years is about 0.01%, 45 years 0.1%, 55 years 0.4%, 65 years 1.4%, 75 years 5%, and 15% >85 years (31). Calculations based on 61 studies (74 estimates) and eight preliminary national estimates by Ioannides suggest a median of 0.05% and upper bound IFR of 0.3% for ages <70 (32). This latter estimate is similar to an estimated US national average IFR of 0.35% based on a Bayesian evidence synthesis model that averaged age-specific IFRs weighted by the fraction of the population in each age group across US states (33). Already the numbers clearly show that the benefits of vaccination do not outweigh the risks in anyone aged 25 or under.

An individual's overall risk of dying from COVID is also a function of infection risk, which varies based on lifestyle, location, time, occupation, and behavior (i.e. social distancing, effective masking with N95 etc.), as well as the presence of comorbidities. In the vaccine clinical trials (when social distancing and masking measures were in place), ~1-2% of the participants contracted symptomatic COVID in the placebo group over a period of a few months (21). Infection risk calculators allow someone to estimate their risk of infection based on attending an event of a certain size (34). For example, a 55 year old attending events over a given time period with a 10% infection risk has a $0.1 \times 0.4\% = 0.04\%$ chance of dying from COVID, which is similar to the odds of vaccine-induced death (VFR~0.01%).

In individuals with no previous exposure and natural immunity, the benefits of vaccination appear to outweigh the risks in age groups >75 years, where the IFR (>1%) is one or two orders of magnitude greater than the estimated VFR of 0.06% in this age group. The benefits may outweigh the risks in ages >45 with high occupational risk (and no previous coronavirus exposure) where the IFR of 0.1% is an order of magnitude higher than the estimated VFR of 0.01%. (18).

Implications for public health policy

There is little to no evidence that vaccines reduce community spread and transmission. The vaccine clinical trials used symptomatic, not asymptomatic COVID, as a clinical endpoint. Since they did not require weekly coronavirus testing in their participants, they were not designed to estimate vaccine efficacy in reducing infection and hence transmission of the virus in pre- and/or asymptomatic persons. Indeed a recent July CDC study in Barnstable, MA reported a majority (75%) of COVID infections were among fully vaccinated people in an area with 69% vaccination coverage, with similar viral loads between vaccinated and unvaccinated (35). Given that vaccines do not appear to reduce community spread and that the risks outweigh the benefits for most age groups, vaccine mandates in workplaces, colleges, schools and elsewhere are ill-advised. We do not see much benefit in vaccine mandates other than increasing serviceable obtainable market (SOM) share for the vaccine companies. See (36) and (18) for a more in-depth discussion and literature review on why the mandates are not based on sound science given the relatively low COVID risk in healthy middle-aged and young adults and growing evidence base for alternative prevention and early treatment options for COVID. See Supplemental Discussion for more resources where readers can learn about the nature and volume of life-altering COVID vaccine injuries.

Limitations and future directions

Future studies that include autopsies on VAERS-reported deaths is required to identify mechanisms of vaccine-induced death. Ideally, our analyses would use age-stratified vaccination to predict age-stratified mortality within the same age groups. However, the European and Israel vaccination data are not age-stratified, and the US vaccination data only provides some age-specific data starting in later months (i.e. vaccines administered to ages >65, >18, and >12 years). In addition, while the US vaccination and COVID cases are updated daily, the age-stratified death counts are per-month, thus preventing analyses using shorter time windows. The additional information may have increased our sensitivity to detect significant effects in more age groups and time periods. Such a scenario would increase our mortality estimates, in which case the death estimates presented here based only on significant effects ($p < 0.05$ corrected) can be considered a lower bound on the estimated deaths attributed to COVID vaccination. The current study focused on vaccine-attributed deaths within 5-6 weeks of vaccination to estimate age-stratified VFR. Future work should examine later periods to estimate lives saved from vaccination and also potential vaccine associated mortality after protective effects wane.

Conclusions

In the European and Israeli data, we find that COVID vaccination correlates positively with mortality 0-5 weeks from vaccination, before associating with lower mortality 6-20 weeks from vaccination. The US data allowed us to estimate a US national average VFR of 0.04% and age-stratified vaccine-induced fatality rates within 1 month post-vaccination. Significant regression terms estimate 130K-180K US deaths can be attributed to vaccination between February and August of 2021. The estimate converges with independent estimates based on the Vaccine Adverse Events Reporting System (VAERS) and suggests VAERS deaths are

underreported by a factor of 20. Comparison of our age-stratified VFR and with age-stratified IFR rates suggests the risks of COVID vaccination outweighs the benefits in children, young and middle age adults, and in older age groups with low occupational risk, previous coronavirus exposure, and access to alternative prophylaxis and early treatment options. Our findings raise important questions about mass COVID vaccinations strategies that warrant further investigation and review.

Data and Resource Sharing

All data used in this study is publicly available. See Data Sources subsection in the Methods for links to the raw data. The extracted data (minimally preprocessed spreadsheets and intermediate results) for both European and US datasets is available in the provided Github repository which is publicly available. The repository also contains all MATLAB code used for the US dataset analyses. Readers who would like to inspect and replicate the results or reanalyze the data may find it easier to first double check the intermediate table files (in Table subfolder of the Github repo at <https://github.com/spiropan/CoVFR>) against the original CDC data and then work off of these tables with their software of choice.

Author Contributions

SPP analyzed US data and drafted the manuscript; HS analyzed European and Israeli data and drafted relevant text.

Conflict of interest

The authors have no relevant conflicts of interest to report.

Acknowledgments

We would like to thank Eileen Natuzzi for critical comments and feedback on the manuscript.

Table 1. Correlations between COVID vaccination rates and mortality as a function of lag (# weeks post-injection) and age group. Each cell summarizes the pearson correlation coefficients between weekly increase in percent vaccinated and weekly mortality in 23 European countries. Top header row: lag=weeks between mortality and injection, n=number of correlations summarized. Middle matrix (%) shows the percentage of positive correlations for that lag among n correlation. *=P < 0.05 corrected, sign test. Bottom matrix (P<0.05) shows the number of negative and positive correlation r's with P < 0.05 uncorrected. Blue: overall protective effect (more injections->lower mortality); yellow: overall adverse effect (more injections->lower mortality).

Lag	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
n	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5
%																													
0-14	52	53	55	53	59	46	63	54	48	54	61	64	67	50	68	89*	65*	81*	67	57	54	42	55	50	44	38	29	33	40
15-44	61	47	42	47	45	50	44*	38*	28*	29*	26*	23*	29	45	32	39	41	56	67	71	46	67*	82*	70*	78*	88*	71*	67*	80*
45-64	67*	69*	55*	60	52	43	37	42	36	46	30	36	38	40	42	39	47	56	60	57	69	50	64	50	56	63	71	67	60
65-74	70*	66*	61*	53	62	46	41	31	44	25*	30*	27*	24*	30*	26*	33*	29*	25*	13*	21*	38*	25	36	40	56	38	29	33	40
75-84	73*	63*	58*	50	55	43	37*	42*	32*	33*	26*	14*	24*	20*	26*	17*	18*	31*	13*	14*	38*	33	27	40	44	38	43	67	60
85+	67*	72*	61*	63*	62*	64*	48	54	52	54	39	27*	14*	25*	26*	28*	41*	31*	27*	29*	31*	33	36	40	56	50	57	67	80
P<0.05																													
0-14, -	1	0	0	1	1	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0-14, +	1	2	2	3	1	1	0	2	1	1	2	1	1	1	1	2	1	0	3	1	1	1	1	1	0	1	0	0	0
15-44, -	1	1	1	0	1	0	2	0	0	1	1	0	0	2	2	2	1	1	1	1	1	1	1	0	0	0	0	0	1
15-44, +	2	3	2	1	2	0	1	1	0	0	0	0	0	0	1	0	0	0	3	1	0	1	0	1	0	0	0	0	0
45-64, -	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
45-64, +	3	4	2	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	1	1	1	0	0	0	0	0	0
65-74, -	0	0	1	0	1	1	0	0	1	1	1	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
65-74, +	2	2	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75-84, -	0	0	0	0	0	0	0	2	2	1	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
75-84, +	0	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85+, -	0	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0
85+, +	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

Table 2. Regression weights and p-values for the vaccination term predicting same or next month deaths using US CDC data. For each month in 2021 and age group, beta weights and uncorrected p-values are listed for the vaccination term (β_2) in the fitted equation:

$$\log(Y_{21_deaths}) = \beta_0 + \beta_1 \log(Y_{20_deaths}) + \beta_2 \log(V_{ax}) + \varepsilon$$

where Vax = vaccine doses administered previous or same month across all US states with available data for that month and age group (~42-52 states for each cell/regression, see Equation 1). Models were fitted using robust regression. Yellow indicates positive beta slopes with p-values < 0.05 FDR corrected. No negative slopes were significant.

Ages	February		March		April		May		June		July		August	
	beta	pval	beta	pval	beta	pval	beta	pval	beta	pval	beta	pval	beta	pval
0-17	0.12	0.2145	0.01	0.9192	-0.03	0.7727	0.08	0.164	0.04	0.4979	0.25	0.0004	0.72	0.0015
18-29	0.12	0.282	0.07	0.4607	0.00	0.9828	0.24	0.0006	0.17	0.0017	0.42	0.0007	0.47	0.0187
30-39	0.11	0.1956	0.12	0.2716	0.06	0.5532	0.13	0.0613	0.15	0.0027	0.34	0.006	0.41	0
40-49	0.16	0.0832	0.09	0.146	0.10	0.2631	0.03	0.6951	0.05	0.2599	0.28	0.0004	0.40	0
50-64	0.07	0.2946	-0.03	0.5487	0.03	0.6703	-0.03	0.6104	0.03	0.5088	0.02	0.6669	0.06	0.726
65-74	0.05	0.5296	0.00	0.9752	0.03	0.7672	0.03	0.628	-0.03	0.4472	0.03	0.5518	0.13	0.3314
75-84	0.08	0.1995	0.04	0.3463	0.66	0	0.05	0.4973	-0.02	0.6506	0.08	0.2925	0.07	0.5904
85-plus	0.15	0.0001	0.18	0.0004	0.70	0	0.20	0.0037	-0.01	0.7658	0.06	0.4708	-0.04	0.7079

Table 3. Model-estimated deaths attributed to COVID vaccination for each age group and month using US CDC data. Significant beta weight coefficients (β_2) in Table 2 surviving $p < 0.05$ FDR corrected were used to estimate VFR and total deaths for each age group and month. If a model using same (not previous) month vaccinations was significant and the equivalent models using previous month was not, then death estimates from those models were used instead (light gray boxes). Similarly, if a model using age-specific vaccination (i.e. doses administered to people >65 yrs) was significant and the equivalent model using all vaccine doses administered was not, then death estimates from those models were used instead (dark gray boxes). See methods for VFR and aVFR definitions and calculations. ns=not significant at $p < 0.05$ FDR corrected. NA=Not available.

Model-estimated deaths										
Ages	Jan	Feb	March	April	May	June	July	Aug	Totals	aVFR (%)
0-17	NA	ns	ns	ns	ns	ns	648	1,227	1,875	0.004
18-29	NA	ns	ns	ns	1,355	861	2,139	ns	4,355	0.005
30-39	NA	ns	ns	ns	ns	1,101	2,422	2,567	6,090	0.009
40-49	NA	ns	ns	ns	ns	ns	3,067	3,979	7,046	0.017
50-64	NA	ns	ns	ns	ns	ns	ns	ns	0	0.016*
65-74	NA	ns	ns	ns	ns	ns	ns	ns	0	0.036*
75-84	NA	ns	ns	41,316	ns	ns	ns	ns	41,316	0.060
85-plus	NA	11,613	13,181	48,186	13,326	ns	ns	ns	86,306	0.055
								Total	146,988	
# Vaccine dose administered										
Vax all ages	2.65E+07	4.60E+07	7.63E+07	8.94E+07	5.25E+07	3.15E+07	1.82E+07	2.46E+07	364,881,402	
Vax >65 yrs	NA	NA	NA	1.40E+07	4.83E+06	3.05E+06	1.90E+06	2.83E+06	26,584,086	
Vax <65 yrs	NA	NA	NA	7.54E+07	4.77E+07	2.84E+07	1.63E+07	2.17E+07	189,500,231	
								VFR	0.04%	
Light gray indicates models estimated using same, not previous, month vaccinations										
Dark gray indicates models estimated using vaccines administered $>$ ages 65										
Light blue indicates significant results when predicting deaths in ages <1 years. Model estimated 667 infant deaths (see Supplementary Results).										
*Robust regression did not yield significant results in these age groups. Thus these estimates were derived from results of standard least-squares regression.										

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Figure legends

Figure 1. Graphical representation of Table 1 European data results. Adverse effects in yellow, above horizontal line, protective effects in blue, below horizontal line. Results of correlation analyses for all age classes and all combinations of weeks, with mortality occurring the same week or after the injection week are plotted. In **a)** the percent positive correlations between vaccination rates and mortality is plotted against time since 1st injection for 6 age groups (A - 0-14 years, B 15-14 years, C 45-64 years, D 65-74 years, E 75-84 years, and F 85+ years). Percentages >50% are shaded yellow, <50% shaded blue. Asterisk indicates $p < 0.05$ corrected for the sign test (see methods). Pearson correlation coefficients r from these analyses are in Supplementary Table 3. In **b)** % positive correlations (left column) and numbers of negative and positive r with $p < 0.05$ uncorrected (middle and right columns).

Figure 2. Example correlation plot from the European dataset. Z-score of weekly mortality for ages 15-44 in 23 countries on week 14 of 2021 as a function of increase in percent vaccinated in these countries, during week 11 of 2021. For this analysis, the time lag in weeks between injection and mortality is $14 - 11 = 3$ weeks. The association indicates adverse injection effects during the first weeks after injection.

Figure 3. Scatter plots of monthly vaccination doses vs. subsequent month deaths with best fit regression lines from the US CDC dataset. The graph plots $\log(\text{administered vaccine doses})$ vs. $\log(\text{residual July 2021 deaths})$ after adjusting for $\log(\text{July, 2020 deaths})$ for each month (top) and age group (right), for each regression model in which the β_2 term survived $p < 0.05$ FDR corrected (see Table 2 and methods)

ns=not significant. For a higher resolution image see Supplementary Figure S1, and for the highest resolution plots viewable in a web browser see [Supplementary Figure S1 tab in this link.](#)

Figure 1.

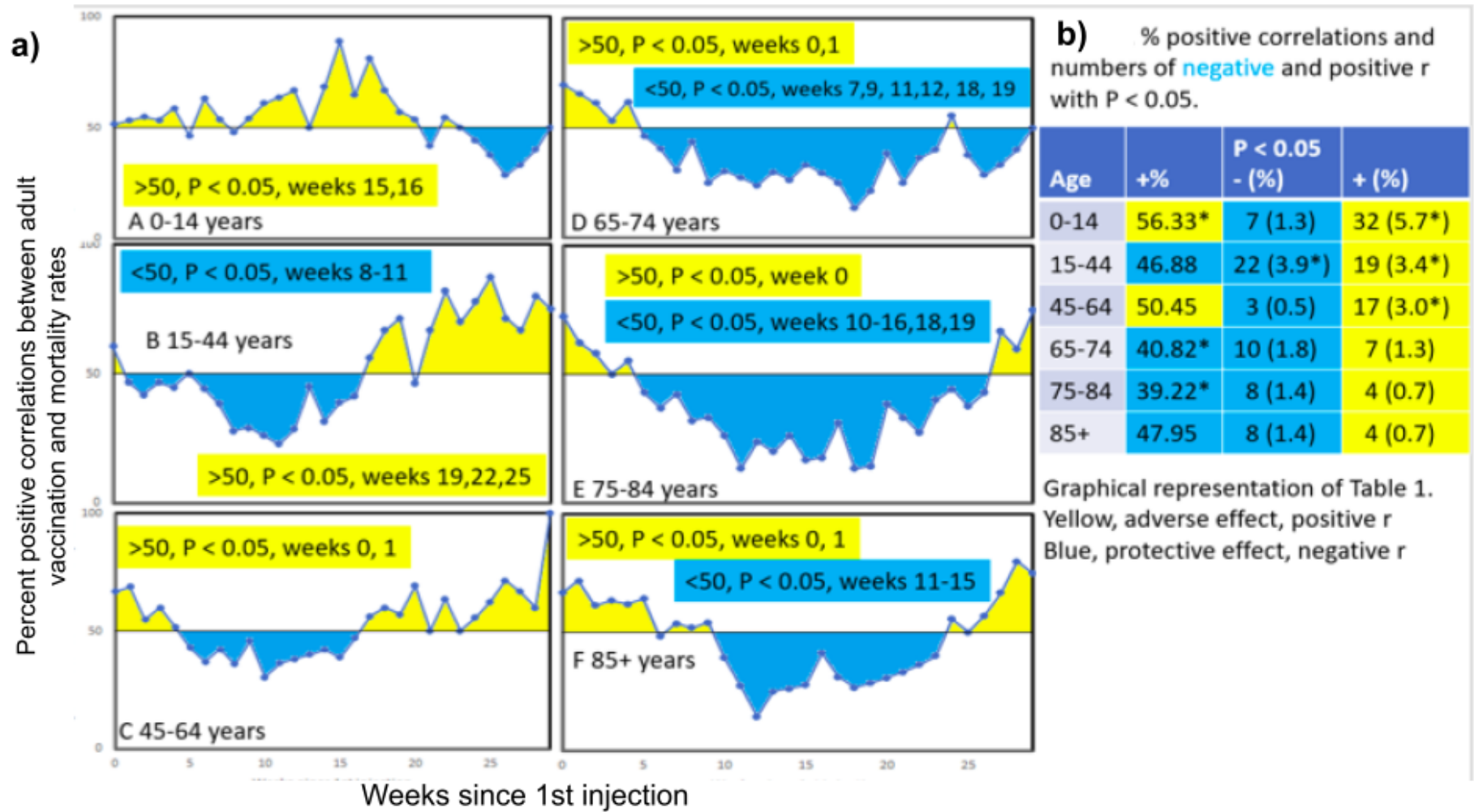


Figure 2.

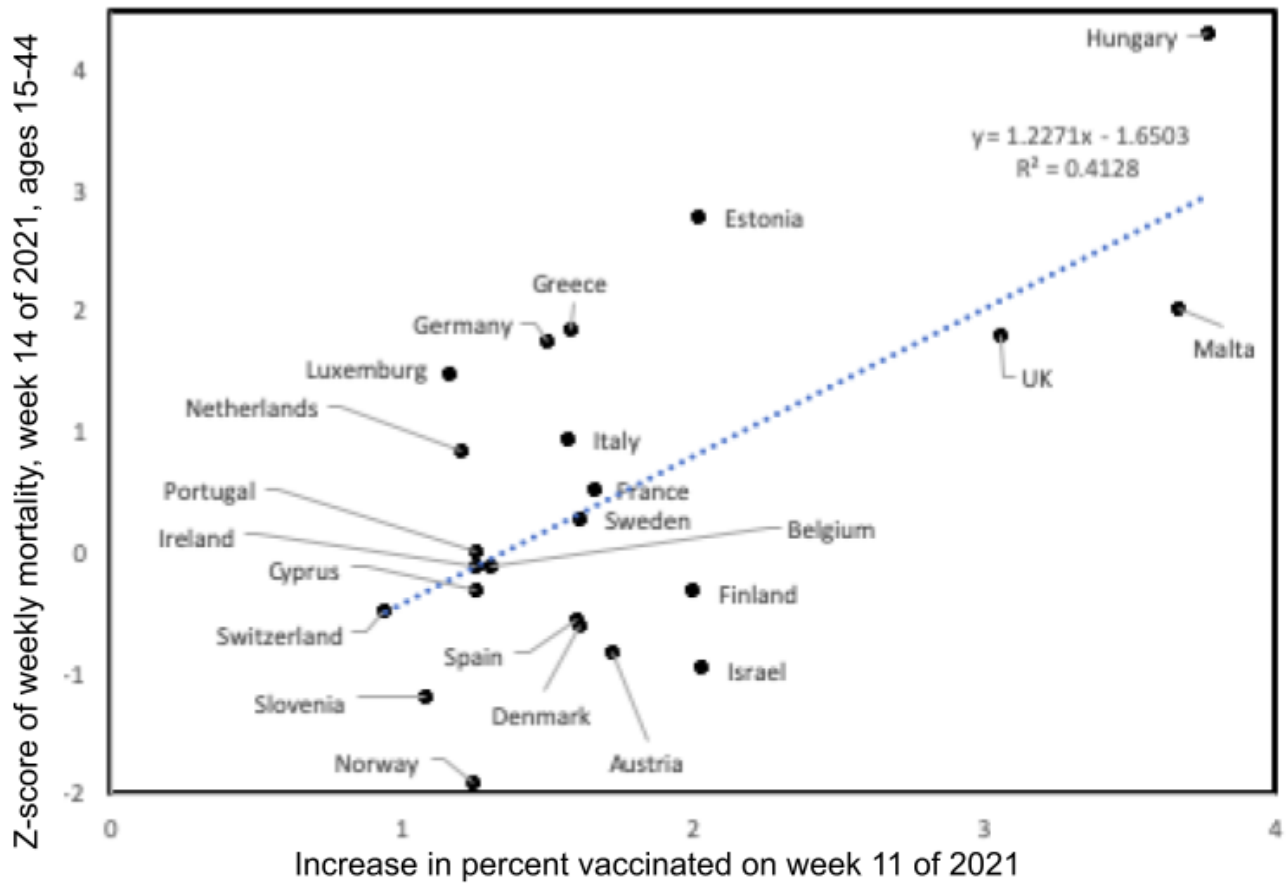
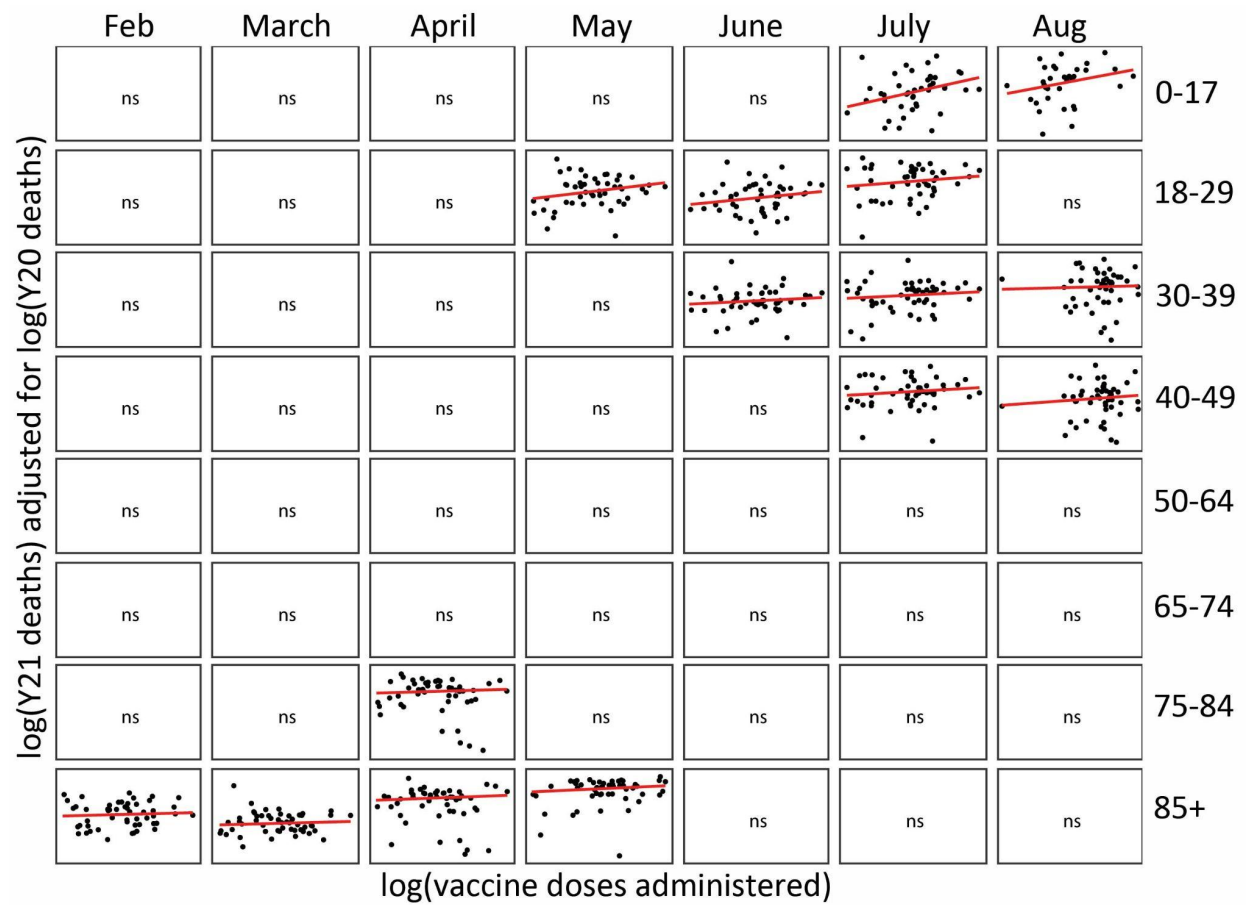


Figure 3

Supplementary Material for “COVID-19 vaccination and age-stratified all-cause mortality risk”

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This manuscript contains:

Supplementary Results

Supplementary Methods and Materials

Supplementary Discussion and References

8 Supplementary Tables S1-S8

1 Supplementary Figure S1

Running title: COVID-19 vaccination and age-stratified mortality

Keywords: Public health, medical ethics, risk-benefit ratio, COVID-19, SARS- CoV- 2, vaccine adverse events

Supplementary Results

The 0-17 age group is peculiar in that it includes infants <1 years old. Infant deaths comprise the majority of deaths in this age group (1). Since infants are not vaccinated, we hypothesized this effect could be attributed to vaccinations in the mother given a July, 2021 report that found 2,346 VAERS-reported cases were pregnant mothers at time of vaccination, 36% of whom experienced some type of pregnancy disorder (2). To further test this possibility, an additional regression in the <1 years of age group was run, and results were significant for the August model ($p < 0.05$ corrected). The model estimated 667 infant deaths in the US during the month of August, 2021 may be attributed to vaccinations in July, 2021, while 1,227 deaths were estimated overall in the 0-17 age group (see light blue box, Table 2 of main text).

Methods and Materials

European dataset sources

Weekly age-stratified mortality data were extracted from euromomo.eu for each week since the start of 2021 for 22 countries covered by euromomo (21 european countries (Austria, Belgium, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, UK (England)) and Israel). These consist of weekly adjusted z-scores, for 6 age groups: 0-14, 15-44, 45-64, 65-74, 75-84 and 80+ years of age. Weekly increases in percentages of the total population who received at least one injection are extracted from [Coronavirus \(COVID\) Vaccinations - Statistics and Research - Our World in Data](#). Supplementary Tables S1 and S2 contained the raw input mortality and vaccination data used in the analyses while Supplementary Table S3 contains the intermediate results (r correlations at each lag before statistical inference, see below).

US Dataset sources

All US data used in the analyses are publicly available and were obtained from either the CDC or US Census Bureau. Vaccination rates across time and US states were extracted from the “COVID Vaccinations in the United States, Jurisdiction” spreadsheet (3). Total deaths per month by age group and sex for each US state were extracted from “Provisional COVID Deaths by Sex and Age” spreadsheet (4). Number of COVID cases per month in each US state were extracted from “United States COVID Cases and Deaths by State over Time” (5). Age-stratified total populations per US state in 2019 were obtained from “NC-EST2019-AGESEX” spreadsheet (6). Spreadsheets were accessed during the first week of September 2021 and included data up through September 1st, 2021. To facilitate importing of data into MATLAB, spreadsheets were filtered (unused columns and rows were removed) and sorted by US State abbreviation. The proprocessed table for April is included as Supplementary Table S4. Similar tables for the other months are available on the Github repository in the subfolder InputFiles (see <https://github.com/spiropan/CoVFR>). The MATLAB script was used to extract relevant data and reorganize the data into tables for each month that list Y20 and Y21 deaths for each age group (columns) and for each state (rows) (see Github subfolder Tables).

Analyses of euromomo.eu data

These mortality data were analysed using Pearson’s correlation coefficient (Pearson’s r) between weekly increases in vaccination rates and mortality rates for the same week or subsequent weeks, from week 1 to week 33 of 2021, separately for each of the six age groups. This results in correlation matrices between vaccination rates and age-specific mortality, with lags between vaccination and mortality week ranging from lag 0 to lag 32 (see Supplementary Table 3). The r correlations were then combined into 9 sets of 3 or 4 week groupings as follows: lags [0,1,2], [3,4,5], [6,7,8], [9,10,11], [12,13,14], [15,16,17], [18,19,20], [21,22,23,24], and [25,26,27,28] for each age group. The last two sets contained 4 weeks to make up for the lower number of r correlations available at much longer lags. Each set of r correlations was then subjected to a sign test for a total of (9 time

periods x 6 age-groups= 54) total sign tests and resulting p-values. These p-values were then corrected for multiple comparisons correction using Benjamini-Hochberg False Discovery Rate (FDR) correction.

Analyses of US CDC data

Our analyses focused on whether we could replicate the higher mortality within the first 5 weeks of vaccination observed in the euromomo.eu data. Since US mortality data were limited to month-level resolution, we tested whether monthly vaccination rates predicted mortality during the same month or during the next month. All the raw data used in the following procedures are available as csv tables to facilitate reanalysis (see Resource and Data Sharing section). Multiple linear regression was used to predict the total # of deaths among 8 age groups (0-17, 18-29, 30-39, 40-49, 50-64, 65-74, 75-84, >85 years) for 7 months (February, March April, May, June, July and August 2021). For each month and age group, the following equation was fitted:

$$\log(Y21_deaths) = \beta_0 + \beta_1 \log(Y20_deaths) + \beta_2 \log(Vax) + \varepsilon \quad (1)$$

Where $Y21_deaths$ and $Y20_deaths$ are the number of total deaths for that month in year 2021 and 2020, respectively, and Vax is the number of vaccine doses administered in the previous month (or current month).

Our model is an ANCOVA model that adjusts for baseline outcomes (here Y20 monthly deaths) while predicting “post” intervention (i.e. vaccination) outcomes (here Y21 deaths). Such models have higher power compared to analyses applied to change scores or percent change looking at baseline (7–9). The models were fitted using robust regression using *robustfit* function in MATLAB 2014b. The algorithm uses iteratively reweighted least squares with the bisquare weighting function and helps ensure results are not driven by outliers by deweighting them during fitting. Standard least-squares linear regression using *glmfit* was also applied for comparison and for cases where results from robust regression could not be determined. The beta weights and associated p-values for the term of interest

(β_2) are reported for each regression in each set of models. Positive (negative) beta weights mean higher vaccinations predict higher (lower) mortality. Each set of models consisted of $8 \times 7 = 56$ regressions and resulting p-values, which were corrected for multiple comparisons using Benjamini-Hochberg False Discovery Rate (FDR) correction (10).

Since most (VAERS reported) vaccine-related deaths events occur within 1-2 weeks of vaccination, an additional set of models were estimated in which vaccinations were used to predict total deaths in the same month. Significant effects from these models replaced results when significant results using previous month vaccinations were not detected and were used instead when estimating deaths for that particular age group and month (Tables 2 and 3). To potentially improve sensitivity in detecting vaccination effects in older age groups, an additional model in which the number of vaccines administered to ages >65 years (instead of all ages) predicted deaths among ages >65 years was estimated. The significant results of these models replaced results from equivalent models with non-significant results and when estimating deaths attributed to vaccination. Since the number of vaccines administered by age is not recorded until the first week of March (Administered_65Plus column in (3)) these models employing age-specific vaccinations are estimated only for April-August.

Controlling for COVID-associated deaths

To control for deaths due to COVID in young adult, middle and older age groups, regressions were also run to predict non-COVID deaths (i.e. the number of total deaths minus deaths due to COVID, Influenza or Pneumonia which are provided in the same spreadsheet as total deaths). In addition, another set of models similar to Eq. 1 were estimated in which log # COVID cases in the previous month were included as an additional covariate.

Controlling for seasonality, population size, and mortality differences across states

Both the number of administered vaccine doses and number of deaths in a given time period is highly correlated with population size of each state. However, age-stratified population size was not

adjusted for in the analyses. Rather, the analyses adjusted for the number of deaths in the same month during the previous year. This effectively controls for age-stratified population size differences across states while additionally controlling for seasonal effects on mortality and state-to-state variability in mortality due to other factors. In a post-hoc analysis, age-stratified populations were correlated with residual deaths (Y21 deaths after adjusting for Y20 deaths), which confirmed that controlling for Y20 deaths effectively removes variance due to age-stratified population difference (all p-values for Spearman rank correlation coefficients ranged between 0.15 and 0.9).

Estimating number of deaths attributed to COVID vaccination

The estimated beta (β_2) weights (regression slopes) that survived $p < 0.05$ FDR corrected were used to estimate death counts for that month and age group. Briefly, for each age group, the increase in deaths attributed to a small (i.e. 10%) increase in vaccinations across all states was used to estimate a vaccine mortality rate for each age group. The rate was then multiplied by the total count of administered vaccination for that month to arrive at an estimated number of deaths attributed to vaccination.

For each state with Y20 death data, increases in deaths due to 10% increase in vaccinations was estimated by solving a system of equations for \hat{Y}_1 and \hat{Y}_2 , where \hat{Y}_1 is the estimated Y21 deaths given the actual vaccine doses administered in that state, and \hat{Y}_2 is the predicted Y21 deaths given a 10% increase in the actual vaccine doses administered in that state:

$$\log(\hat{Y}_1) = \beta_0 + \beta_1 \log(\text{Y20_deaths}_1) + \beta_2 \log(\text{Vax}_1) + \varepsilon \quad (2)$$

$$\log(\hat{Y}_2) = \beta_0 + \beta_1 \log(\text{Y20_deaths}_1) + \beta_2 \log(\text{Vax}_1 \cdot 1.1) + \varepsilon \quad (3)$$

Solving for \hat{Y}_2 yields:

$$\hat{Y}_2 = \hat{Y}_1 * e^{\beta_2 \log(1.1)} \quad (4)$$

The differences between \hat{Y}_2 and \hat{Y}_1 were summed across all N states with available Y20 data, and then divided by 1/10th (10%) of the sum of vaccine doses administered across those states to estimate an age-specific vaccine-attributed fatality rate (aVFR) for that age group and month:

$$aVFR \approx \left(\frac{\sum_{k=1}^N \hat{Y}_2^k - \hat{Y}_1^k}{\sum_{k=1}^N 0.1 \cdot Vax_1^k} \right) \quad (5)$$

Finally, the aVFR was multiplied by the total number of vaccinations in the US during the month used in the regression model to arrive at an estimated death count attributed to vaccines for each month and age group that survived the applied significance threshold. The values are then used to populate the cells in Table 2.

Two approaches were used to estimate a US national average and age-stratified VFRs. The US national average VFR was estimated by dividing the death counts estimated above, summed over all age groups and months, by the total number of vaccine doses administered between January and August 21st. A second approach averaged across all monthly aVFRs (equation 5) within each age group, calculated based on thresholded regression weights ($p < 0.05$ uncorrected), resulting from the 3 model variations (i.e. the primary model using previous month vaccination, a second model using same month vaccinations, and a third using previous month vaccinations in ages > 65 years). A liberal threshold of $p < 0.05$ uncorrected was used to increase the sample size of rates used for the average. This yielded an estimated aVFR for each of the age groups analyzed in the study.

Supplementary Discussion

Errors and concerns raised with vaccines safety studies of pregnant women

Although vaccination during pregnancy is reported as safe by the US CDC (11), a number of issues and concerns have been raised with the studies supporting vaccine safety among pregnant women. Brock and Thornley (12) and McCullough et al. (13) point out several errors in an early safety study among pregnant women by Shimabukuro et al. (14). The original Shimabukuro et al. study

reported a spontaneous abortion rate <20 weeks gestation rate of 12.6% after vaccination, which is similar to previously published background rates. However, their denominator includes ~700 women who were vaccinated after the timeframe for recording the outcome had elapsed (up to 20 weeks of pregnancy). Excluding those participants results in a spontaneous abortion incidence rate that 7-8 times higher (82%-91%) than the originally report rate. Note that the rate seems high because the study only examined completed pregnancies and many participants were yet not followed up on at the time of the report (at early stages the majority of completed pregnancies are expected to be spontaneous abortions). Shimabukuro et al. has since issued correction which now states “No denominator was available to calculate a risk estimate for spontaneous abortions” in the Table footnotes. However, the article abstract, results and discussion still report and discuss the initial findings of the study, including the 12.6% spontaneous abortion rate in those exposed to vaccines before 20 weeks.

A related, more recent case-control study by Kharbanda et al. concluded “Among women with spontaneous abortions, the odds of COVID-19 vaccine exposure were not increased in the prior 28 days compared with women with ongoing pregnancies” (15). However, contrary to the authors’ conclusions, a comment on the article by Cosentino points out that a reanalysis of the frequencies reported in Table 1 shows the crude OR of vaccine exposure in women with spontaneous abortions is 1.07 (95% CI: 1.01-1.14, $p = 0.025$ by Fisher's exact test), a result that is apparently fully accounted for by the maternal age group 16-24 y, where the crude OR is 1.37 (95% CI: 1.07-1.75, $P = 0.017$). Cosentino also points out the arbitrariness of using 28 days as a window. Why not track and report spontaneous abortion rates across all participants up through week 19 gestation? The response by Kharbanda et al. to Cosentino states that their results differ because they controlled for confounding variables, but they do not report statistics for the nuisance terms, making it difficult to assess which nuisances variable accounted correlated with higher spontaneous abortions rates and why. Finally, we note that the authors’ original analysis DOES report trend level evidence for increased risk of spontaneous abortion (see Table 2, gestation weeks 9-13, OR 1.07, 95% CI 0.99-1.17), but the result is not discussed by the authors elsewhere in the article.

Why our results evidence a causal link (not just an association) between vaccination and mortality risk

1. Vaccination predicts mortality in future time periods. Thus our results can not reflect increases in vaccination rates that are caused by increased mortality. Temporal precedence is a basis for inferring causality in i.e. Granger causality analysis.
2. Our estimates for total deaths due to vaccination are strikingly similar to independent estimates based on a fundamentally different dataset and approach based on the VAERS database that uses data-driven, credible assumptions about the VAERS underreporting bias (16). Our results provide independent, converging lines of evidence for vaccine-induced mortality risk, lending further credence to their accuracy and credibility.
3. We are aware of only one variable, COVID cases, that could potentially confound our results. This could happen IF more people get vaccinated as local COVID cases rise and COVID deaths comprise a majority of the deaths in subsequent time periods. Below are the main reasons why COVID case rates do NOT explain our findings:
 - a. An additional set of analyses that include COVID case numbers in previous month as a nuisance regressor yielded largely similar results (Supplementary Table S5).
 - b. A secondary set of analyses that use non-COVID, Influenza, and Pneumonia deaths (non-COVINFPNU) as the dependent variable yielded similar results to analyses that use total deaths, but with larger p-values because there are substantially fewer observations for each regression (Supplementary S6). Note that non-COVINFPNU deaths were not used the primary outcome because the COVID death variable is missing for younger ages (sample size is cut in half for ages 40-49 and below 30 it is about 10-25% of the full sample size when using Total Deaths), and for the younger age groups it is zero for most states that do report a value.
 - c. Vaccination rates predict mortality in younger age groups (where COVID deaths are much rarer), providing further support that the effects seen here are not due to COVID.

4. The existing COVID vaccine surveillance studies supporting vaccine safety contain critical errors, issues and limitations (see Discussion, Supplementary Discussion and (17)).
5. Our results comport with the volume and nature of responses to social media posts, the FDA dockets for solicited public comments, and websites created to give voice to the vaccine-injured (see Conclusions for sample links and URLs).
6. Our US results show an age-related temporal pattern that is consistent with the mass vaccination campaign that first targeted nursing homes and older age groups (i.e. vaccination predicts total deaths in ages older than 75 in early 2021, and then in younger ages later in the year). There appears to be no other explanation for this other than a causal link between vaccination and mortality risk.
7. Given items 1-6 and the absence of other potential confounding variables, the most logical and reasonable conclusion is that our results reflect a causal effect of COVID vaccination on mortality.

Life-altering COVID vaccine injuries: real-world evidence through personal testimonials

To help give a real-world sense of the risks and impact of COVID vaccines, readers are encouraged to browse through some of the testimonials on c19vaxreactions.com and nomoresilence.world, two websites dedicated to giving voice to those injured by COVID vaccines. Readers are also encouraged to read the thousands of solicited comments submitted to the public FDA advisory committee meeting held on Oct 26th, 2021 to discuss approval of the COVID vaccines for children ages 5-11 at <https://www.regulations.gov/document/FDA-2021-N-1088-0001>. Perusing through over 250K comments left on a [Facebook post by WXYZ-TV Channel 7](#) is also illuminating. The post asked people who had lost an unvaccinated loved one to COVID to contact them for a story, but instead received tens, if not hundreds, of thousands of stories of vaccine injuries or deaths instead. The post is telling of how injured patients, or those who have lost friends or family to vaccine-induced death, are often ignored by the same major news outlets that encouraged them to be vaccinated. This is

understandable, as no one, especially those with good intentions and high hopes but who were misled by less-than-rigorous science, wants to acknowledge the possibility that the COVID vaccines and their boosters may be causing more harm than good overall. The sooner the taboo surrounding research and discussion of vaccine-induced injury and death is lifted, the sooner public health policy can be adjusted and resources can be mobilized to identify and develop therapies and interventions.

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Supplementary Table S1. Weekly increases in percent vaccinated in 23 European countries, Coronavirus (COVID-19) Vaccinations - Statistics and Research - Our World in Data. See [Supplementary Table 1 spreadsheet](#).

Supplementary Table S2. Weekly total mortality data for 6 age classes for the first 33 weeks of 2021 from 23 European countries ([Graphs and maps — EUROMOMO](#)). See [Supplementary Table 2 spreadsheet](#).

Supplementary Table S3. Pearson correlation coefficient r between weekly injection percentage and weekly mortality for 6 age classes (appendices 1 and 2) for 23 European countries. See [Supplementary Table 3 spreadsheet](#).

Supplementary Table S4. COVID Cases, prior month vaccinations and age-stratified mortality for April 2021. Cumulative number of vaccinations or COVID cases are as of April 1st, 2021. See [Supplementary Table 4 spreadsheet](#). For the same tables for all other months see the Tables subfolder in the [Github repository](#) for the paper.

Supplementary Table S5. Same as main text Table 2, except models adjust for previous month COVID cases. For each month in 2021, beta weights and uncorrected p-values are listed for the vaccination (b3) term in the GLM equation: $\log(\text{Total Deaths Y21}) \sim b_0 + b_1 \log(\text{Total Deaths Y20}) + b_2 \log(\text{previous month COVID cases}) + b_3 \log(\text{vaccine doses administered previous month})$ across all US states with available data for that month and age group (~42-52 states for each regression). Yellow indicates positive slopes with p-values < 0.05 FDR corrected.

Ages	February		March		April		May		June		July		August	
	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>
0-17	0.20	0.0804	-0.04	0.788	-0.06	0.7097	0.08	0.3919	0.15	0.0781	0.25	0.0006	0.85	0.0002
18-29	0.05	0.67	0.02	0.8675	0.08	0.5718	0.35	0.0022	0.17	0.0087	0.43	0.001	0.48	0.0245
30-39	0.10	0.236	0.11	0.3307	0.12	0.3057	0.22	0.0246	0.06	0.2361	0.18	0.0338	0.43	0.0001
40-49	0.04	0.5992	0.10	0.1467	0.31	0.0066	0.04	0.6619	-0.01	0.8911	0.25	0.0011	0.33	0
50-64	0.01	0.8772	-0.05	0.3089	0.07	0.4449	-0.03	0.7569	-0.01	0.8857	0.00	0.9619	0.06	0.7524
65-74	-0.03	0.6456	-0.01	0.7956	0.55	0	0.06	0.5136	-0.06	0.2174	0.04	0.4281	0.14	0.3689
75-84	0.00	0.9792	0.03	0.5138	0.74	0	0.09	0.313	-0.04	0.4667	0.08	0.3745	0.10	0.4944
85-plus	0.08	0.0421	0.18	0.0011	0.80	0	0.20	0.0065	-0.02	0.6827	0.06	0.5826	0.09	0.5876

Supplementary Table S6. Same as main text Table 2, except the dependent variable is Non-COVID-Influenza-Pneumonia (COVINFPNU) Deaths. For each month in 2021, beta weights and uncorrected p-values are listed for the vaccination (b2) term in the GLM equation: $\log(\text{Non-COVINFPNU Deaths Y21}) \sim b_0 + b_1 \log(\text{Non-COVINFPNU Deaths Y20}) + b_2 \log(\text{vaccine doses administered previous month})$ across all US states with available data for that month and age group. Note that because COVID deaths are relatively rare among younger age groups, there are much fewer states with available data for Non-COVINFPNU deaths, particularly for the ages 0-49 (denoted with an asterisk). There were <9 data points for ages 0-17, <15 for 18-29, <18 for 30-39, and <28 for ages 40-49. Yellow (light peach) indicates positive slopes with p-values < 0.05 FDR corrected (p<0.05 uncorrected).

Ages	February		March		April		May		June		July		August	
	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>	<i>beta</i>	<i>pval</i>
0-17*	0.16	0.7765	0.12	0.884	0.02	0.9609	0.09	0.5649	0.17	0.2077	0.18	0.44	1.09	0.1555
18-29*	0.34	0.241	0.24	0.4753	-0.08	0.8776	0.34	0.0484	0.23	0.0492	0.17	0.4183	0.61	0.1516
30-39*	0.24	0.0403	0.13	0.6711	0.29	0.428	0.19	0.2136	0.32	0.0045	0.51	0.0009	0.52	0.1312
40-49*	0.14	0.097	0.09	0.3116	-0.08	0.5875	-0.03	0.6914	0.03	0.5984	0.22	0.0214	0.25	0.1238
50-64	0.13	0.0983	-0.04	0.4401	0.06	0.5302	-0.02	0.7485	0.04	0.4562	0.07	0.1317	0.10	0.5667
65-74	0.11	0.1673	-0.05	0.3438	0.23	0.0241	0.04	0.5858	-0.02	0.6384	0.05	0.3212	0.23	0.0173
75-84	0.05	0.5033	0.03	0.569	0.44	0.0004	0.07	0.4253	-0.01	0.9219	0.09	0.0637	0.16	0.1436
85-plus	0.17	0.0015	0.15	0.0531	0.79	0	0.19	0.0074	0.01	0.9093	0.09	0.1393	0.10	0.3665

Supplementary Table S7. Same as Table 3 of main text, except deaths were estimated based on robust regression results thresholded at $p < 0.05$ uncorrected.

Estimated Deaths									
Ages	Jan	Feb	March	April	May	June	July	Aug	Total
0-17	NA	NaN	NaN	NaN	NaN	NaN	647.76	1226.97	1874.73
18-29	NA	NaN	NaN	NaN	1354.55	563.56	1055.33	1832.9	4806.34
30-39	NA	NaN	NaN	NaN	NaN	691.16	1212.1	2176.17	4079.43
40-49	NA	NaN	NaN	NaN	NaN	NaN	1329.07	2673.17	4002.24
50-64	NA	NaN	NaN	NaN	NaN	NaN	NaN	7057.19	7057.19
65-74	NA	NaN	NaN	NaN	NaN	NaN	NaN	12208.21	12208.21
75-84	NA	NaN	NaN	41316.18	NaN	NaN	NaN	NaN	41316.18
85-plus	NA	11613.29	13180.95	55443.25	13326.06	NaN	NaN	NaN	93563.55
								Total	168,908

Supplementary Table S8. Model-estimated deaths attributed to COVID-19 vaccination for each age group and month. Same as Table 3 of main text, except deaths were estimated based on standard linear regression (glmfit MATLAB function) thresholded at $p < 0.05$ FDR corrected. Beta weight coefficients estimated from Equation 1 and surviving $p < 0.05$ FDR corrected were used to estimate VFR and total deaths for each age group and month. If a model using same (not previous) month vaccinations was significant and the equivalent models using previous month was not, then death counts from those models were used instead (light gray boxes). Similarly, if a model using age-specific (i.e. >65 yrs) vaccine dose administrations was significant and the equivalent models using total vaccine doses administered was not, then death counts from those models were used instead (dark gray boxes). See methods for VFR and aVFR definitions and calculations. ns=not significant at $p < 0.05$ FDR corrected. NA=Not available.

Estimated Deaths and aVFR										
Ages	Jan	Feb	March	April	May	June	July	Aug	Total	aVFRs (%)
0-17	NA	ns	ns	ns	ns	ns	576	1,311	1,887	0.0031
18-29	NA	ns	ns	ns	1,400	833	1,226	ns	3,459	0.0051
30-39	NA	ns	ns	ns	ns	ns	2,644	ns	2,644	0.0067
40-49	NA	ns	ns	ns	ns	1,905	3,412	ns	5,317	0.0087
50-64	NA	ns	ns	ns	ns	ns	ns	ns	0	0.0157
65-74	NA	ns	ns	23,813	ns	ns	ns	ns	23,813	0.0363
75-84	NA	ns	ns	26,679	ns	ns	ns	ns	26,679	0.0670
85-plus	NA	ns	13,136	39,101	17,346	ns	ns	ns	69,583	0.0529
								Total	133,382	

Supplementary Table S9. Model-estimated deaths attributed to COVID-19 vaccination for each age group and month. Same as Supplementary Table S5, except deaths were estimated based on standard linear regression (*glmfit* MATLAB function) thresholded at $p < 0.05$ uncorrected. Beta weight coefficients estimated from Equation 1 and surviving $p < 0.05$ uncorrected were used to estimate VFR and total deaths for each age group and month. If a model using same (not previous) month vaccinations was significant and the equivalent models using previous month was not, then death counts from those models were used instead (light gray boxes). Similarly, if a model using age-specific (i.e. >65 yrs) vaccine dose administrations was significant and the equivalent models using total vaccine doses administered was not, then death counts from those models were used instead (dark gray boxes). See methods for VFR and aVFR definitions and calculations. ns=not significant at $p < 0.05$ uncorrected. NA=Not available.

Estimated Deaths									
Ages	Jan	Feb	March	April	May	June	July	Aug	Total
0-17	NA	474	ns	ns	306	ns	576	1,311	2,667
18-29	NA	ns	ns	ns	1,400	544.24	1,226	2,093	5,263
30-39	NA	1,703	ns	ns	ns	785	1,385	2,454	6,327
40-49	NA	ns	1,887	ns	ns	1,905	1,347	2,764	7,902
50-64	NA	ns	ns	ns	ns	8,256	ns	ns	8,256
65-74	NA	ns	ns	15,212	7577.31	ns	ns	ns	22,789
75-84	NA	ns	ns	26,679	11893.16	ns	26042	ns	64,614
85-plus	NA	ns	13,136	39,101	17346.48	ns	ns	ns	69,584
								Total	187,402

Supplementary Figure S1. Plots of log transformed vaccination vs. monthly Y21 deaths adjusted for Y20 deaths. Results are plotted for each model in which the vaccination terms was significant at $p < 0.05$ FDR corrected (see Table 2 and Table 3 of main text). ns=not significant. For higher resolution images [see Supplementary Figure S1 tab in this link.](#)

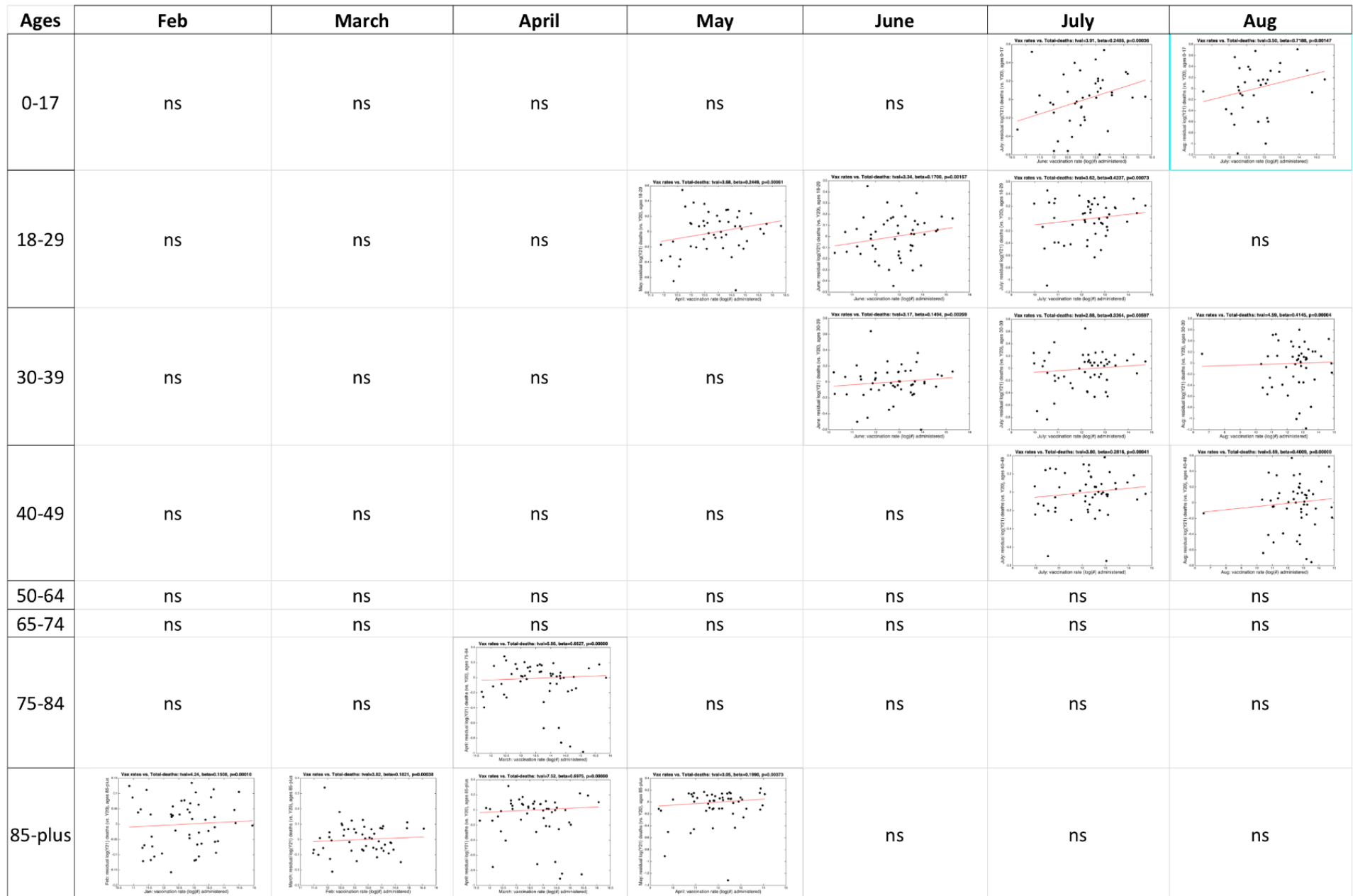


Exhibit 8

Cite as: 598 U. S. ____ (2023)

1

Statement of GORSUCH, J.

SUPREME COURT OF THE UNITED STATES

ARIZONA, ET AL. *v.* ALEJANDRO MAYORKAS,
 SECRETARY OF HOMELAND
 SECURITY, ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF
 APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 22–592. Decided May 18, 2023

The December 16, 2022 order of the United States Court of Appeals for the District of Columbia Circuit denying petitioners’ motion to intervene is vacated, and the case is remanded to that court with instructions to dismiss the motion as moot.

JUSTICE JACKSON dissents from the vacatur of the order of the United States Court of Appeals for the District of Columbia Circuit and would instead dismiss the writ of certiorari as improvidently granted.

Statement of JUSTICE GORSUCH.

This case concerns the “Title 42 orders.” Those emergency decrees severely restricted immigration to this country for the ostensible purpose of preventing the spread of COVID–19. The federal government began issuing the orders in March 2020 and continued issuing them until April 2022, when officials decided they were no longer necessary.¹

If that seems reasonable enough, events soon took a turn. In a federal district court in Louisiana, a number of States argued that the government’s decision to end the Title 42 orders violated the Administrative Procedure Act (APA), 5 U. S. C. §551 *et seq.*, because agency officials had not provided advance notice of their decision or invited public comment.² The States did not seriously dispute that the public-

¹ 87 Fed. Reg. 19944–19946, 19956 (2022).

² *Louisiana v. Centers for Disease Control & Prevention*, 603 F. Supp. 3d 406, 412 (WD La. 2022).

Statement of GORSUCH, J.

health justification for the orders had lapsed. The States also understood that their lawsuit would only require the government to take certain additional procedural steps before ending the Title 42 orders. But the States apparently calculated that even a short, court-ordered extension of those decrees was worth the fight. Worth it because, in their judgment, a new and different crisis had emerged at the border and the federal government had done too little to address it.³ Keeping the Title 42 orders in place even temporarily was better than the alternative. In the end, the district court agreed with the States' APA arguments and entered a nationwide injunction that effectively required the government to enforce the Title 42 orders until and unless it complied with the statute's notice-and-comment procedures.⁴

Meanwhile, a thousand miles away, a group of asylum seekers filed a competing class-action lawsuit in a federal district court in Washington, D. C. This group argued that, from the start, the government lacked legal authority to issue its Title 42 orders. Ultimately, the D. C. district court agreed with the group's assessment and issued an equally sweeping form of relief—sometimes called “universal vacatur”—that purported to wipe the Title 42 orders off the books as if they never existed.⁵ So it is that the federal government found itself in an unenviable spot—bound by two inconsistent nationwide commands, one requiring it to enforce the Title 42 orders and another practically forbidding it from doing so.

If these head-spinning developments were not enough, more followed. Displeased with the D. C. district court's ruling, some of the States in the Louisiana case moved to intervene in the D. C. case. The States said they wanted to

³*Id.*, at 417.

⁴*Id.*, at 441.

⁵*Huisha-Huisha v. Mayorkas*, 2022 WL 16948610, *15 (Nov. 15, 2022).

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3

Statement of GORSUCH, J.

defend the Title 42 orders on appeal because the federal government was unlikely to do so with sufficient vigor. Ultimately, the court of appeals denied the States’ motion to intervene as untimely.⁶ So, late in 2022, the States turned to this Court seeking two things. First, they asked for expedited review of the appellate court’s order denying their motion to intervene. Second, they asked for a stay of the D. C. district court’s decree vacating the Title 42 orders. The Court granted both requests. In doing so, the Court effectively extended the Title 42 orders indefinitely.⁷

Now, almost five months later, the Court puts a final twist on the tale. It vacates the appellate court’s order denying the States’ motion to intervene and remands with instructions to dismiss the motion as moot. Why the sudden about-face? Recently, Congress passed and the President signed into law a joint resolution declaring that the COVID–19 emergency is over.⁸ The Secretary of Health and Human Services, too, has issued his own directive announcing the end of the public-health emergency underlying the Title 42 orders.⁹ Apparently, these developments are enough to persuade the Court that the Title 42 orders the government wished to withdraw a year ago are now as good as gone and any dispute over them is moot.

I recite all this tortured procedural history not because I think the Court’s decision today is wrong. Nearly five months ago, I argued that the Court erred when it granted expedited review and issued a stay. As I explained at the time, I do not discount the States’ concerns about what is happening at the border, but “the current border crisis is

⁶*Arizona v. Mayorkas*, 598 U. S. ___, ___ (2022) (GORSUCH, J., dissenting) (slip op., at 2).

⁷See *id.*, at ___ (slip op., at 3).

⁸Pub. L. 118–3, 137 Stat. 6.

⁹See U. S. Dept. of Health and Human Services, COVID–19 Public Health Emergency (PHE), <https://www.hhs.gov/coronavirus/covid-19-public-health-emergency/index.html>.

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not a COVID crisis.”¹⁰ And the Court took a serious misstep when it effectively allowed nonparties to this case to manipulate our docket to prolong an emergency decree designed for one crisis in order to address an entirely different one.¹¹ Today’s dismissal goes some way to correcting that error.

I lay out the history of this case only because it is so typical. Not just as an illustration of the quandaries that can follow when district courts award nationwide relief, a problem I have written about before.¹² Even more importantly, the history of this case illustrates the disruption we have experienced over the last three years in how our laws are made and our freedoms observed.

Since March 2020, we may have experienced the greatest intrusions on civil liberties in the peacetime history of this country. Executive officials across the country issued emergency decrees on a breathtaking scale. Governors and local leaders imposed lockdown orders forcing people to remain in their homes.¹³ They shuttered businesses and schools,

¹⁰ *Arizona*, 598 U. S., at ____ (GORSUCH, J., dissenting) (slip op., at 3).

¹¹ *Id.*, at ____–____ (slip op., at 2–3).

¹² *Department of Homeland Security v. New York*, 589 U. S. ___, ____ (2020) (opinion concurring in grant of stay) (slip op., at 3).

¹³ See, e.g., *Republican National Committee v. Democratic National Committee*, 589 U. S. ___, ____ (2020) (Ginsburg, J., dissenting) (slip op., at 2) (noting that the Governor of Wisconsin ordered residents “to stay at home . . . to slow the spread of the disease”); see generally The Council of State Governments, COVID–19 Resources for State Leaders: 2020–2021 Executive Orders, <https://web.csg.org/covid19/executive-orders/> (COVID–19 Resources for State Leaders) (cataloging such orders issued throughout the country).

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public and private.¹⁴ They closed churches even as they allowed casinos and other favored businesses to carry on.¹⁵ They threatened violators not just with civil penalties but with criminal sanctions too.¹⁶ They surveilled church parking lots, recorded license plates, and issued notices warning that attendance at even outdoor services satisfying all state social-distancing and hygiene requirements could amount to criminal conduct.¹⁷ They divided cities and neighborhoods into color-coded zones, forced individuals to fight for their freedoms in court on emergency timetables, and then changed their color-coded schemes when defeat in court seemed imminent.¹⁸

Federal executive officials entered the act too. Not just with emergency immigration decrees. They deployed a public-health agency to regulate landlord-tenant relations nationwide.¹⁹ They used a workplace-safety agency to issue a vaccination mandate for most working Americans.²⁰ They

¹⁴ See, e.g., *Rossi v. Arch Ins. Co.*, 60 F. 4th 1189, 1192 (CA8 2023) (noting that “state and local governments” across the country issued “stay-at-home orders” that shuttered businesses); *Kentucky ex rel. Danville Christian Academy, Inc. v. Beshear*, 981 F. 3d 505, 507 (CA6 2020) (noting that the Governor of Kentucky prohibited “in-person instruction at all public and private elementary and secondary schools”); see generally COVID–19 Resources for State Leaders.

¹⁵ *Calvary Chapel Dayton Valley v. Sisolak*, 591 U. S. ___, ___ (2020) (GORSUCH, J., dissenting from denial of application for injunctive relief) (slip op., at 1).

¹⁶ See, e.g., D. Burke, Police Arrest Florida Pastor for Holding Church Services Despite Stay-at-Home Order, CNN (Mar. 30, 2020), <https://www.cnn.com/2020/03/30/us/florida-pastor-arrested-river-church/index.html>.

¹⁷ *Roberts v. Neace*, 958 F. 3d 409, 412 (CA6 2020) (*per curiam*).

¹⁸ *Roman Catholic Diocese of Brooklyn v. Cuomo*, 592 U. S. ___, ___–___ (2020) (*per curiam*) (slip op., at 1–7); see also *South Bay United Pentecostal Church v. Newsom*, 592 U. S. ___, ___–___ (2021) (statement of GORSUCH, J.) (slip op., at 1–6).

¹⁹ *Alabama Assn. of Realtors v. Department of Health and Human Servs.*, 594 U. S. ___, ___ (2021) (*per curiam*) (slip op., at 1).

²⁰ *National Federation of Independent Business v. OSHA*, 595 U. S. ___, ___ (2022) (slip op., at 1).

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threatened to fire noncompliant employees,²¹ and warned that service members who refused to vaccinate might face dishonorable discharge and confinement.²² Along the way, it seems federal officials may have pressured social-media companies to suppress information about pandemic policies with which they disagreed.²³

While executive officials issued new emergency decrees at a furious pace, state legislatures and Congress—the bodies normally responsible for adopting our laws—too often fell silent. Courts bound to protect our liberties addressed a few—but hardly all—of the intrusions upon them. In some cases, like this one, courts even allowed themselves to be used to perpetuate emergency public-health decrees for collateral purposes, itself a form of emergency-lawmaking-by-litigation.

Doubtless, many lessons can be learned from this chapter in our history, and hopefully serious efforts will be made to study it. One lesson might be this: Fear and the desire for safety are powerful forces. They can lead to a clamor for action—almost any action—as long as someone does something to address a perceived threat. A leader or an expert who claims he can fix everything, if only we do exactly as he says, can prove an irresistible force. We do not need to confront a bayonet, we need only a nudge, before we willingly abandon the nicety of requiring laws to be adopted by our legislative representatives and accept rule by decree. Along the way, we will accede to the loss of many cherished civil liberties—the right to worship freely, to debate public

²¹ See, e.g., K. Liptak & K. Collins, Biden Announces New Vaccine Mandates that Could Cover 100 Million Americans, CNN (Sept. 9, 2021), <https://www.cnn.com/2021/09/09/politics/joe-biden-covid-speech/index.html>.

²² *Austin v. U. S. Navy Seals 1–26*, 595 U. S. ___, ___ (2022) (ALITO, J., dissenting) (slip op., at 1).

²³ See, e.g., S. Myers, Free Speech vs. Disinformation Comes to a Head, N.Y. Times (Feb. 9, 2023), <https://www.nytimes.com/2023/02/09/business/free-speech-social-media-lawsuit.html>.

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policy without censorship, to gather with friends and family, or simply to leave our homes. We may even cheer on those who ask us to disregard our normal lawmaking processes and forfeit our personal freedoms. Of course, this is no new story. Even the ancients warned that democracies can degenerate toward autocracy in the face of fear.²⁴

But maybe we have learned another lesson too. The concentration of power in the hands of so few may be efficient and sometimes popular. But it does not tend toward sound government. However wise one person or his advisors may be, that is no substitute for the wisdom of the whole of the American people that can be tapped in the legislative process.²⁵ Decisions produced by those who indulge no criticism are rarely as good as those produced after robust and uncensored debate.²⁶ Decisions announced on the fly are rarely as wise as those that come after careful deliberation. Decisions made by a few often yield unintended consequences that may be avoided when more are consulted. Autocracies have always suffered these defects. Maybe, hopefully, we have relearned these lessons too.

In the 1970s, Congress studied the use of emergency decrees.²⁷ It observed that they can allow executive authorities to tap into extraordinary powers.²⁸ Congress also observed that emergency decrees have a habit of long outliving the crises that generate them; some federal emer-

²⁴ See, e.g., Aristotle's *Politics*, Bk. V, chs. 2, 4 (H. Rackham transl. 1959).

²⁵ See, e.g., *The Federalist* No. 10, pp. 80–84 (C. Rossiter ed. 1961) (J. Madison); *id.*, No. 35, at 215–216 (A. Hamilton); *id.*, No. 57, at 350–356 (J. Madison).

²⁶ Cf. *Whitney v. California*, 274 U. S. 357, 375 (1927) (Brandeis, J., concurring).

²⁷ Congressional Research Service, *National Emergency Powers* 7 (Nov. 19, 2021) (CRS) (describing congressional studies undertaken from 1972 to 1976 regarding emergency powers).

²⁸ *Id.*, at 8.

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gency proclamations, Congress noted, had remained in effect for years or decades after the emergency in question had passed.²⁹ At the same time, Congress recognized that quick unilateral executive action is sometimes necessary and permitted in our constitutional order.³⁰ In an effort to balance these considerations and ensure a more normal operation of our laws and a firmer protection of our liberties, Congress adopted a number of new guardrails in the National Emergencies Act.³¹

Despite that law, the number of declared emergencies has only grown in the ensuing years.³² And it is hard not to wonder whether, after nearly a half century and in light of our Nation's recent experience, another look is warranted. It is hard not to wonder, too, whether state legislatures might profitably reexamine the proper scope of emergency executive powers at the state level. At the very least, one can hope that the Judiciary will not soon again allow itself to be part of the problem by permitting litigants to manipulate our docket to perpetuate a decree designed for one emergency to address another. Make no mistake—decisive executive action is sometimes necessary and appropriate. But if emergency decrees promise to solve some problems, they threaten to generate others. And rule by indefinite emergency edict risks leaving all of us with a shell of a democracy and civil liberties just as hollow.

²⁹ *Id.*, at 7.

³⁰ *Id.*, at 1, 8–10.

³¹ 90 Stat. 1255 (codified at 50 U. S. C. §§1601–1651).

³² CRS 12 (identifying dozens of existing emergencies as of 2019).